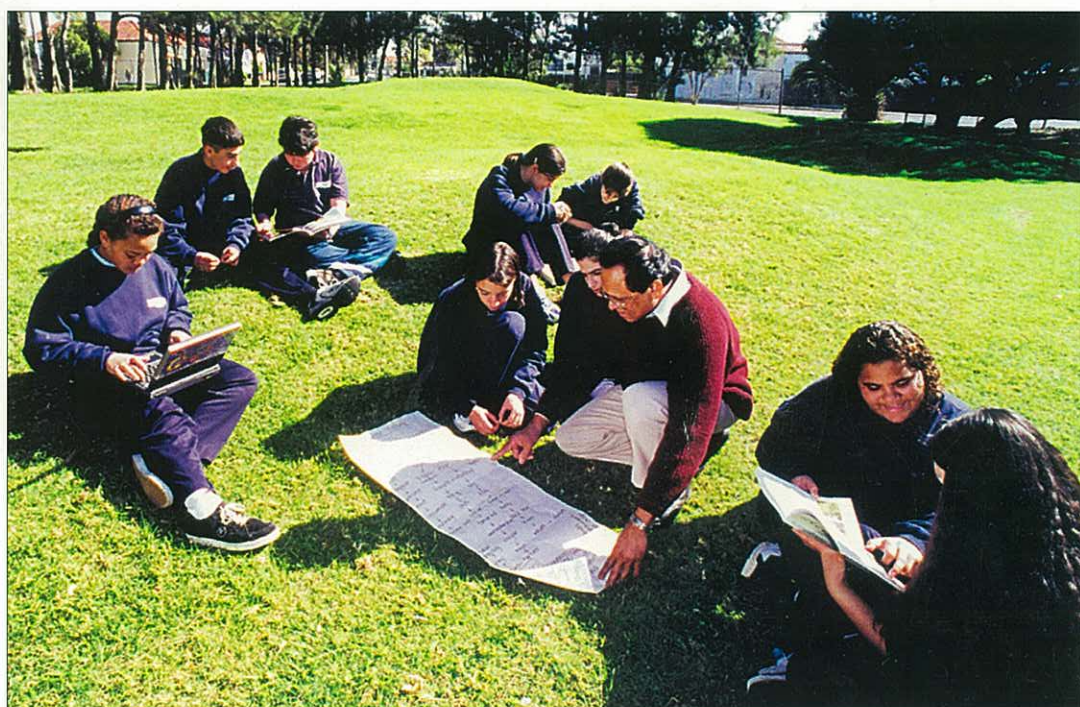


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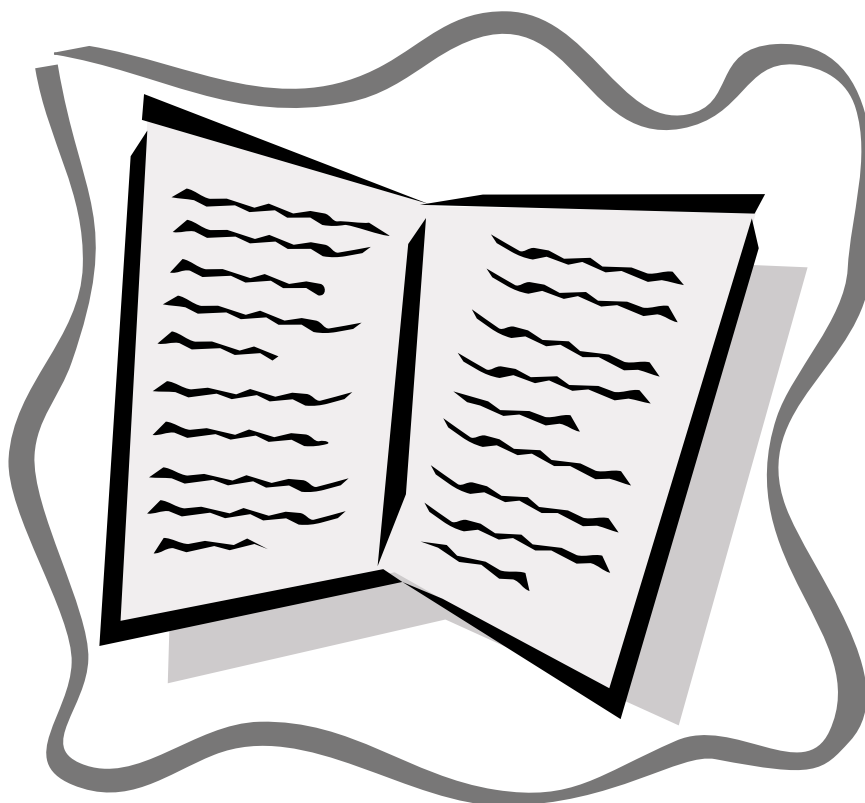
ITERACY



*T*EACHING LITERACY  
IN DESIGN AND  
TECHNOLOGY  
IN YEAR 7



NEW SOUTH WALES  
DEPARTMENT  
OF SCHOOL  
EDUCATION



# Teaching literacy in design and technology in Year 7

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## Contents

• Chapter 1: The literacy demands of design and technology	5
• Chapter 2: The continuum of literacy development	10
• Chapter 3: Assessing, planning and programming for explicit teaching	17
• Chapter 4: Units of work – Outdoor living	22
Design brief 1: Design and make a garden for growing herbs or vegetables at school, in your own backyard, or on a balcony or window sill.	24
Design brief 2: Develop and test a condiment that could be used when eating outdoors.	51
Design brief 3: Design and make an item that could be used when entertaining outdoors.	75
• Chapter 5: Planning a whole-school approach to literacy	99





# Chapter 1:

## The literacy demands of design and technology

It is period 2 on Friday in a Year 7 design and technology lesson. The students are continuing work on marketing their latest design project.

*T. Last week we were discussing aspects of marketing. Who can remember what the functions of marketing are?*

*S1. To make us want to buy something.*

*T. Yes... Let's get a list of functions up on the board. We say it helps sell the product (writes sell).*

*S2. It helps the product become known.*

*T. Does anyone remember the correct term for assisting a product to become known?*

*S3. Promotion.*

*T. Great (writes promotion).*

In this brief transcript we can see that the teacher is scaffolding the students' learning in a number of ways:

1. the teacher makes links with and activates prior learning
2. the teacher provides a visual model of the students' responses
3. the teacher provides explicit teaching of the subject-specific vocabulary and moves the students from their commonsense understandings of the topic to the technical understandings required.

Teachers need to provide explicit instruction for students in meeting the literacy demands of their subject areas. Explicit literacy teaching is integral to the teaching of content.

This book will provide teachers with strategies to improve the literacy achievements of their students. It will also provide a framework for teaching which can be applied to other topic areas and subjects within the key learning area.



## What are we referring to when we talk about literacy in design and technology?

Nowadays literacy is used with very broad meanings. We hear people speak of scientific literacy, computer literacy, media literacy. When literacy is used in these ways it is a metaphor for “understanding”, and what we really mean is understanding science, understanding computers or understanding how the media work. This is not what we are talking about here. What we are dealing with in this book is knowing how to go about teaching in a systematic and explicit way, so that teaching the content is not impeded by students’ lack of ability to read and write appropriately in the subject area.

This is how we are defining literacy.

### Definition of literacy

Literacy is the ability to read and use written information and to write appropriately, in a range of contexts. It is used to develop knowledge and understanding, to achieve personal growth and to function effectively in our society. Literacy also includes the recognition of number and basic mathematical signs and symbols within text.

Literacy involves the integration of speaking, listening and critical thinking with reading and writing. Effective literacy is intrinsically purposeful, flexible and dynamic and continues to develop throughout an individual’s lifetime.

All Australians need to have effective literacy in English, not only for their personal benefit and welfare but also for Australia to reach its social and economic goals.

*Australia’s Language and Literacy Policy,  
Companion Volume to Policy Paper, 1991.*

Successful Year 7 students in design and technology need to demonstrate a variety of literacy skills in order to communicate their skills, knowledge and understanding of the content.

### Speaking

**In studying design and technology students are expected to speak for these purposes:**

- to articulate ideas
- to interact with each other
- to use the technical vocabulary of design and technology
- to discuss ideas
- to recall procedures
- to express opinions
- to argue constructively
- to offer explanations
- to articulate knowledge and understandings
- to negotiate with others
- to ask questions.

**Therefore, to be successful a student needs to be able to:**

- use talk to link prior understandings with new knowledge
- choose an appropriate form of speaking according to the purpose and audience
- display an understanding of, and sensitivity to, cultural conventions
- present a strong point of view, including one or two reasoned arguments
- offer explanations for events or phenomena
- use a variety of connectives to express cause and effect and time relationships in a text
- join in discussions constructively, expressing ideas and opinions, without dominating
- respond to the listener's reaction by restating, modifying content
- use strategies to assist small group members to contribute, e.g. ask questions to clarify others' viewpoints, negotiate.

## **Listening**

**When studying design and technology, students are expected to listen for these purposes:**

- to gain information
- to follow instructions
- to respond to a variety of stimuli
- to understand the technical vocabulary of design and technology
- to listen to the ideas and opinions of others
- to understand conversations, instructions and demonstrations
- to recognise meaning
- to respond appropriately and constructively to oral stimuli.

**Therefore, to be successful a student needs to be able to:**

- respond constructively to alternative viewpoints
- ask questions to clarify meanings
- identify the main idea and supporting details of a spoken report and summarise it for others
- make brief notes from a spoken text
- detect strategies that speakers use to influence an audience
- recognise when an opinion is being offered.



## Reading

**In studying design and technology, students are expected to read for the following purposes:**

- to locate and select specific information
- to make comparisons
- to recognise the technical vocabulary of design and technology and understand its meaning
- to read independently from a variety of sources
- to extract and organise information
- to follow written instructions
- to analyse and summarise information
- to relate and link knowledge and understandings
- to identify and locate appropriate resources
- to read from a range of texts.

**Therefore, to be successful, a student needs to be able to:**

- recognise important organisational elements in texts, e.g. main ideas and supporting details in factual texts; main argument, supporting points and conclusion in an exposition; general statement or classification and descriptive details in a report
- discuss the ways in which different media treat the same event, e.g. newspaper, magazine, or television news
- select information from visual and written texts, in response to questions given by the teacher
- predict possible resources and devise a search plan
- identify and locate resources by using a range of strategies, e.g. searches by subject, key word, author or title; consulting encyclopaedias, atlases, yearbooks, databases and CD-ROMs in school and local libraries; using other information sources, such as government departments, local people and organisations, magazines, pamphlets and newspapers
- select resources using skimming techniques and scan selected texts to locate information
- attempt several strategies for reading difficult texts, such as talking to others about ideas and information conveyed in the text, re-reading or reviewing parts of the text, making notes about key features, consulting the index, contents page or glossary, using diagrams accompanying the text, searching for links with personal experience
- identify text features which may help readers to distinguish fact from opinion
- identify the viewer's position in visual texts and how this affects the meaning, e.g. camera angles
- interpret symbolic and graphic forms of information
- locate information from diagrams, graphs and flow charts.

## Writing

**In design and technology students are expected to write for the following purposes:**

- to recount a series of events
- to articulate ideas in written and graphical form
- to organise written information from a variety of sources
- to write in a variety of text types
- to express a point of view and justify it with relevant reasons
- to present a written argument
- to construct an information report
- to devise a set of explicit instructions that involve sequential steps
- to record information clearly.

**Therefore, to be successful a student needs to be able to:**

- consider the reader's likely knowledge of a topic and provide appropriate levels of explanation and definition
- choose language appropriate to the audience and purpose
- argue a position or point of view, raising the relevant points in support of a thesis
- construct an information report that elaborates on and classifies details about a number of aspects of the topic
- construct a media recount with consideration given to headline, visual elements, point of view, chronological order
- discuss in writing some arguments surrounding a topical issue, attempting to relate these to one another
- devise a set of explicit instructions that involve related steps
- record information from a variety of sources before writing
- use a checklist to guide proofreading of their own and others' completed texts
- monitor their own progress as writers and respond to others' writing constructively
- monitor their own spelling and attempt to make corrections through an understanding of word usage, including visual and phonetic patterns, word derivations and meanings
- select vocabulary for its precise meaning and discuss the effect of vocabulary choices in their own writing and text models
- use a variety of print and script styles to emphasise or highlight parts of the text (e.g. underlined headings, capitals) or to change appearance for different effects.

These represent only a sample of the skills, knowledge and understandings which a successful student would exhibit.



## Chapter 2:

# The continuum of literacy development

During their primary years students will have been involved in a wide range of literacy experiences in all subjects.

### A functional view of language

In the Department of School Education all literacy activities are based on a functional view of language, which emphasises the way language is used to make meaning.

This view of language shows how language enables people to do things: to share information, to enquire, to express attitudes, to entertain, to argue, to have needs met, to reflect, to construct ideas, to order experience and to make sense of the world. It is concerned with how people use language for real purposes in a variety of social situations. All these language exchanges, whether spoken or written, formal or informal, are called “texts”.

A functional view of language takes account of the ways in which the particular language choices we make in any situation influence, and are influenced by, the people involved and what the subject matter. The roles and relationships existing between the speaker and the listener or between the reader and the writer influence the words which will be used and the ways in which the text will be structured.

Similarly, the subject matter will influence the language choices. For example, in a text about droughts, you would expect to see language which describes and explains, and technical vocabulary about such things as rainfall patterns or land features like erosion and their effects on people, animals and plants. On the other hand, in a text about how to publish a newsletter, you would expect to find language which instructs or commands. You would expect to find words which name the commands to be used, such as *place*, *save as* and *export* and technical words which relate to the relevant concepts, such as *text rotation* and *scaling a graphic*.

The language we use has evolved within a culture which has particular beliefs, values, needs and ways of thinking about the world. Our language is shaped by these cultural factors and in turn helps to shape the culture. For example, in the English language we have only one word *snow*, which describes all different kinds of snow. The Inuit people have ten different words for *snow* covering all the different weather conditions. They need to be able to define *snow* more distinctly because their survival could depend upon what weather conditions are prevailing.

## Primary experiences

During their primary years students will have been engaged in talking, listening, reading and writing for a range of purposes. These purposes would have led them to become familiar with a variety of different forms of reading, writing, speaking and listening. These different forms of language are often called **text types**. We can group them together, based on features they have in common. Primary students will have used a variety of text types in Science and Technology including:

### Discussion

A text that argues two or more viewpoints, such as a discussion of the advantages and disadvantages of different computer applications.

### Explanation

A text that explains how or why something occurs, such as explaining how goods and services get from manufacturers to consumers.

### Exposition

A text that persuades by arguing one side of an issue, such as presenting the benefits of planting native trees in the playground.

### Procedure

A text that instructs someone on how to do something, such as giving instructions on how to set up the video editor.

### Recount

A text that retells a series of events, such as a description of how a student made a product.

### Report

A text that classifies and describes something, such as presenting information about a feature of the local environment.

### Response or review

A text that describes and presents an evaluation of a piece of work, design idea or existing product.

In Year 7 students are most likely to be asked to listen to, read and write narratives in English, dance, drama and history.

They will be engaged in oral **discussions** in all subject areas and reading and writing them in history, geography, science, PDHPE and design and technology.

They will be required to listen to and give oral **explanations** in most subjects and to read and write **explanations** in science, geography, history, mathematics, PDHPE, visual arts, music and design and technology.

They will participate in oral **expositions** in all subject areas and will read and write expositions in science, history, geography, English, design and technology and PDHPE.

They will participate in oral **procedures** in all subjects and will read and write them in design and technology, PDHPE, science, mathematics, geography, visual arts, dance, music and drama.

They will listen to and provide oral **recounts** and will read and write them in all subjects.

They will participate in oral **reports** in most subjects and will read and write them in geography, science, visual arts, music, PDHPE, design and technology, mathematics and English.

They will be engaged in oral **responses** and read and write them in English, music, dance, drama, visual arts and design and technology.

While students initially will be examining these text types as individual entities, many of the tasks they will be involved in will require them to incorporate the features of several different text types.

Consider a task like this:

*Consider ten processed foods you can buy or which you have at home. Describe the additives in them and discuss the health benefits or risks of these.*

Let's think about what this task is actually asking of the students.

Students should be shown how to break up the task into its component parts.

1. *Consider ten processed foods* requires students to look at a number of food products and read the packaging to determine which have additives. They would then need to locate the information about additives on the packaging, list these and probably classify them depending upon whether they are, for example, food colours, preservatives or flavour enhancers. Students might require assistance with finding where on the packaging this information is located and with reading the names and symbols used to describe them. The teacher would probably need to develop the students' understandings of these additives using spoken language, so that they can read them with understanding and reproduce them correctly in writing.
2. *Describe the additives in them* requires students to define processed foods, list some examples with their additives, perhaps as a table, and probably include an explanation of how some of the additives work.

3. *Discuss the health benefits* requires students to provide information about the benefits of some food additives.
4. *Discuss the health risks* requires students to provide information about the risks of some food additives.
5. Often tasks such as these expect students to conclude with a recommendation or general statement about the benefits and risks.

When we are setting tasks such as this it is important that we are clear about the purpose of the task, what we expect the students to produce and that we explain this clearly to the students. We should also ensure that students have been previously supported in presenting information in the ways we are asking and that we explicitly describe the criteria which will be used to evaluate their efforts.

Students' skills in using these text types would have been developed in a range of KLAs. Primary teachers tend to use an integrated model of teaching, where the boundaries between the various KLAs are often blurred. For example a thematic unit of work in Year 6 on "Space" might incorporate aspects of science, technology, HSIE, mathematics and English. Within this unit of work students would have been speaking, listening, reading and writing for a number of purposes. They would have produced such texts as information reports, discussions, explanations and narratives. The implication of this teaching approach is that the students often do not recognise the KLA or the content separate from the way of reading and writing about it. This means they sometimes have difficulty in transferring their learning from the primary to the secondary setting. For example, they may think that writing explanations is something they do when they write about "Space" and not recognise that it is an appropriate form of writing in many different contexts.

## Implications for teachers of design and technology in Year 7

Teachers need to take account of the prior learning experiences of their students and make links with these experiences for them. This book will provide you with a range of practical ways for addressing the learning needs of students.

In planning explicit support for students to meet the literacy demands of design and technology in the Year 7 curriculum, we also need to recognise that we are preparing our students for the further demands of Stages 4, 5 and 6.

When students arrive in Year 7 they have generally already learned a great deal about built environments, information and communications, living things, physical phenomena, products and services and the Earth and its surroundings. This learning occurs through activities that have involved them in the processes of investigating, designing and making and using a range of technologies.

In the primary school, the literacy demands of science and technology include:

- locating information from a range of sources, including people, reference materials, other publications, the Internet and the media
- making detailed observations and descriptions of objects, phenomena and processes
- generating and presenting design ideas
- planning how to undertake investigative or making activities
- evaluating own activities and those of others
- explaining how design and make tasks were completed
- devising information products for a variety of purposes and audiences
- using texts that combine written information and visual elements.

In high school, the literacy demands of the Technological and Applied Studies (TAS) key learning area will expand and become more sophisticated. By Year 10, these students will be expected to:

- identify methods of written and oral communication appropriate to specific design projects
- identify the conventions of graphic communication
- research information related to design projects
- use computer technology to obtain and manipulate data
- present ideas using the methods, standards and conventions of oral, written and graphical communication
- present oral and written reports
- use correct terminology associated with design and technology from a range of contexts
- prepare diagrams, sketches and drawings for the making of models and products
- evaluate design solutions
- respond to ideas and issues
- interpret a range of technical language and symbols
- discuss the advantages and disadvantages of design ideas or solutions.

Many of these activities will produce examples of the identified text types. However in the TAS KLA students will frequently be working with texts that are variations on or combinations of text types.

In the TAS KLA the literacy demands will vary according to the specific subjects which students select from the range available.

Generally students will not easily understand the more sophisticated literacy demands of specific TAS KLA subjects unless we explain and explicitly teach these literacy demands. We need to be able to do this using a language which describes how language works in the specific subject in the TAS KLA.



## Supporting students as learners

Students learn about literacy as they interact in many contexts with peers, teachers and the wider school community. Students should have many opportunities to interact with others to express feelings and opinions and to listen and respond to the views of others. Students should be given opportunities to interact as readers or listeners with a wide range of texts.

In all subjects, students develop understandings and learn new concepts and skills through the use of language. As they explore their environment, investigate problems and participate in cooperative learning activities, they use language to clarify their thinking, to share and test ideas, to communicate with others and to reflect on their own learning.

Learning experiences should be designed to involve students in reading, writing, speaking and listening to a variety of texts which relate closely to real world purposes. Teachers should provide learning experiences that include literacy learning in ways that build on students' real life experiences and focus on the content that students need to learn.

Students should come to understandings about how language works through frequent talk about the written and spoken texts with which they are working. They should have many opportunities to read, write, talk and listen and focus on the grammatical features that successful texts employ. In this way students will develop a shared language for describing the way language works to achieve particular purposes in TAS subjects.

Students need to become actively involved in both naturally occurring and structured demonstrations of language in action in TAS subjects.

Learning experiences should provide clear models of successful texts, and opportunities for students to create their own texts with support as they move towards independence. Frequent opportunities should be provided for students to participate with their teachers and other learners in the joint construction of texts. For example students and teachers could create a recount which presents the key events from an excursion.

In working towards syllabus outcomes, students will often be attempting language tasks which are new to them. These tasks need to be analysed in order to ascertain the specific demands that they will make on students. Once these demands are recognised and understood, students should be given appropriate support at points of need throughout the process in order to achieve success.

Learning environments need to be structured so that students are encouraged to take risks and are led towards an understanding that approximating is a natural and necessary aspect of real learning. They need to feel that it is acceptable and appropriate to make approximations based on the level of knowledge and awareness a student currently has about literacy, while the teacher continues to provide exemplary models.

For example, in design and technology, discussions can be used effectively for considering issues and for evaluating design proposals, projects, products and materials and recommending criteria for judging the success of a project.

For students to write discussions successfully they need to be shown how they are organised and what grammatical features are most typical. This can be done through analysing models of texts before constructing new texts with teacher or peer assistance, or using proformas.

All learning activities should be designed around real texts. Authentic texts, both spoken and written, provide models for teaching students how language works to achieve particular purposes. For example, students researching information related to a media design project for the context area *Information and communication* could read the following text:

Media products—for example, television, video, radio and print—are designed and produced in the same way as thousands of other products we use every day. Specific techniques and methods may differ, but the basic processes happen in this context, just as elsewhere. Producers of media need to:

- identify their needs or intentions
- identify a market or an audience
- generate, evaluate and refine ideas
- put ideas into practice in the production of a range of information products.

Harriman, S. (1996). *Design it, Make it, Appraise it – lower secondary technology*.  
Carlton: Curriculum Corporation.

Students may need assistance in locating appropriate texts and in selecting those which will achieve their purposes.

We need to teach students how to use the information skills processes of:

- defining
- locating
- selecting
- organising
- presenting
- assessing

and apply these processes to reading, writing and research tasks.



## Chapter 3: Assessing, planning and programming for explicit teaching

If we are to plan appropriate programs in design and technology, we first need to ascertain what skills, knowledge and understandings our students currently have. This information needs to be considered in relation to the content to be taught and the literacy skills which the students already have to gain access to the content.

The document *Principles for assessment and reporting in NSW government schools* (1996) sets out some useful guidelines for assessing students' achievement and should be read in conjunction with this chapter. It provides advice about assessment within an outcomes approach and the forms of assessment which teachers can use to make judgments about students' achievements and progress. Some assessment strategies which are discussed are:

- collecting student work samples and annotating these against a set of criteria,
- using self and peer assessment of work against a predetermined set of criteria, and
- assessing performances such as debates, demonstrations and projects.

Further information about practical assessment strategies is contained in *Assessing and Reporting using Staged Outcomes, Part 1 Assessing*, NSW Board of Studies (1996).

### Uses of assessment

Assessment enables us to evaluate our teaching programs and plan further learning. It provides the starting point for planning the learning experiences which will support the content to be taught and the literacy skills to be developed. The information gained will indicate which students might require individual programs or further investigation of learning difficulties. It can provide useful information for other teachers to assist them in planning more appropriately to meet the needs of individuals and groups of students.

Assessment information provides students with feedback about their performance and progress and helps them to set further learning goals.

Assessment informs parents and caregivers about students' achievements and progress and enables teachers, parents and students to discuss the goals that have been met and to make plans for further progress.

## Collecting information about students' literacy achievements

Teachers of Year 7 students should collect information about their students' literacy achievements from a range of sources.

1. Any task in which students are involved is an assessment opportunity. Teachers are constantly making judgments about students' achievements and making decisions about further support, consolidation or acceleration on the basis of what students are demonstrating.
2. Primary schools can provide a wealth of information about students' literacy and their achievements and experiences in the various subjects. Develop links with your local feeder primary schools so that you can begin to address such issues as what information would be most useful to you and the format in which it could be presented. Organise a meeting between the school literacy support team and the Year 6 teachers and possibly the executive of your primary feeder schools. At this meeting you can begin to discuss the types of assessment information the primary schools currently collect and what information is most useful to secondary teachers. This could include information relating to students' literacy achievements, their learning experiences, their performance in all KLAs, attendance records and their participation in support programs.

As a group the school literacy teams could develop ways of passing on the information. Some possible ways include: student profiles where the criteria have been jointly negotiated, with annotated work samples (again with agreed criteria); personal interviews between the Year 6 teacher and the Year 7 coordinator; or discussions between the school counsellors of the two schools.

3. The ELLA results will provide information about students' skills in reading, language and writing, for both individual students and year groups. This will provide a snapshot of students' achievements, which will give you a starting point for planning and programming appropriate teaching and learning experiences.
4. Support teachers within the school can provide additional information about students. ESL teachers can provide advice about the students' level of achievement by using the ESL scales as a tool for assessment, as well as planning and programming. The ESL scales support teachers in making judgments about the ESL students' achievements and language learning needs.

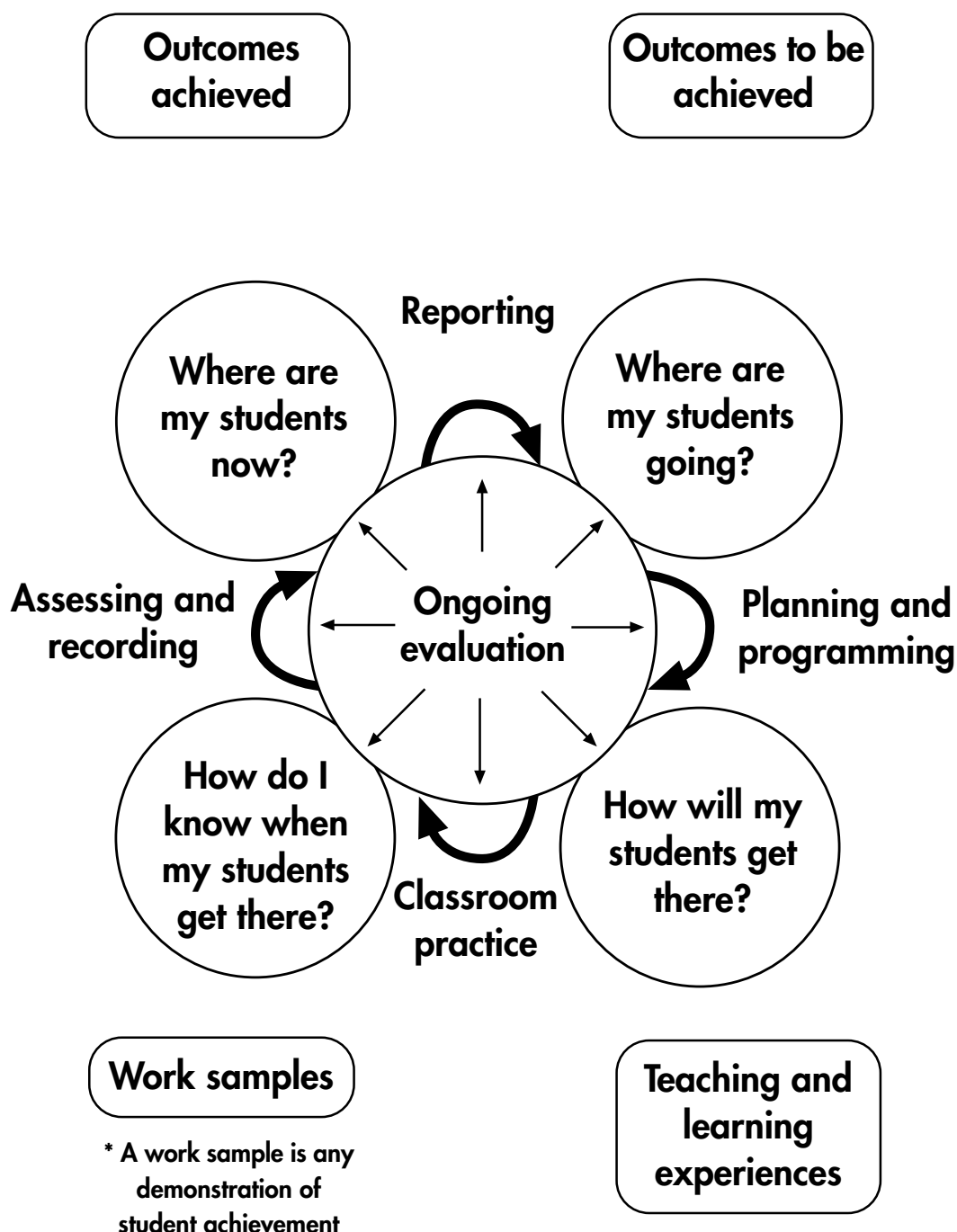
The ESL scales are a supplement to syllabus documents, and to any curriculum support material, such as teaching units. The ESL scales enable teachers to recognise and articulate the progress their ESL students make as they develop their proficiency in English. The ESL scales are to be used in conjunction with mainstream curriculum documents.

It is also important that we use a tool such as the ESL scales to ensure that the second language learners are not incorrectly diagnosed as "failed literacy learners". Second language acquisition issues might be diagnosed as learning difficulties which would result in inappropriate or misdirected support.

Support teachers learning difficulties can provide advice about alternative or additional teaching strategies to assist those students who are experiencing difficulties. They are able to diagnose particular learning difficulties and suggest programs and procedures for addressing these particular needs.

The following diagram demonstrates the teaching and learning cycle.

## The teaching and learning cycle



The teaching and learning cycle involves:

- identifying how students are currently performing; that is, their knowledge, skills and understandings related to syllabus outcomes, specific content and literacy;
- making decisions about the next set of outcomes, knowledge, skills and understandings that students need to achieve in both content and literacy;
- developing programs of work and appropriate teaching and learning strategies to assist students to achieve these outcomes; and
- monitoring students' achievements through ongoing assessment to determine when the outcomes have been achieved and whether the teaching program is supporting students in achieving the desired outcomes.

Movement through this cycle is flexible, with teachers continually making decisions about students' achievements and making changes to the teaching program where required.

## What information needs to be collected?

1. Information needs to be collected about students' current knowledge, skills and understandings of the content which the design and technology syllabus outlines. Questioning, conducting tests and quizzes, making *What we already know* charts or having students devise a performance, will all provide information about appropriate starting points. Such strategies will highlight those students who require additional support and those who are achieving more advanced outcomes and are therefore in need of more challenges.
2. Information also needs to be collected about students' literacy skills which will influence their ability to attain proficiency in the new content. Consider what the literacy demands of the planned work will be. Determine whether students have encountered these sorts of demands before.

In design and technology this involves recognising and understanding written, spoken and visual texts. Written texts include stimulus materials, such as newspaper articles, reference materials, brochures, labels, which students must read and comprehend. Spoken text includes instructions, explanations, descriptions and any orally presented information that students must make sense of as they listen. Visual texts include demonstrations, videos, diagrams and flow charts that could be employed in the teaching of design and technology.

It might be necessary to have students provide a piece of writing, participate in an oral discussion, or read a piece of text to determine what level of support will be required. Think about the technical or subject-specific language which students will be required to use and ways in which they will need to be supported. Examine the texts they will be required to read to determine whether they would be too difficult or too simple for some students. It may be necessary to find a range of texts to suit the differing achievement levels of the students.

Teachers can support students to read more difficult texts by demonstrating such strategies as:

- highlighting new vocabulary and teaching it beforehand
- using headings and subheadings to predict what the text will be about
- considering the theme of a text to predict what the contents might be.

In some cases tapes may be made of the text and a student may follow the text on a listening post.

**Explicit teaching** involves:

- explaining the purpose of the task or unit of work to students
- presenting tasks clearly
- providing modelling and demonstrations of the tasks to be performed
- making links with prior knowledge
- providing positive and useful feedback to students on both their developing content knowledge and skills and their literacy skills
- correcting errors and providing further modelling and demonstration as needed
- providing opportunities for students to practise new skills and understandings with guidance from the teacher or support from peers.

**Systematic teaching** involves:

- having a clear understanding of the skills, knowledge and understandings that need to be taught
- breaking the learning up into meaningful “chunks”
- knowing what literacy demands are inherent in the content to be taught
- knowing a range of appropriate strategies for teaching literacy
- monitoring students’ progress consistently throughout the teaching and learning cycle and adapting the teaching where necessary
- giving students opportunities for observation, guided practice and independent performance of all new learning.

(adapted from: NSW Department of School Education (1997). *Focus on Literacy*)

The following units of work will exemplify a range of strategies for explicitly teaching literacy in the TAS KLA.

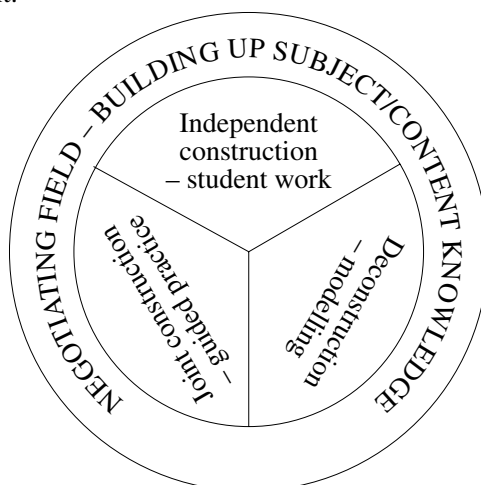




## Chapter 4: Units of work – Outdoor living

The following three units of work make use of a variety of text types and literacy strategies in the teaching of design and technology. Although these may overlap across the units, different strategies and text types have been highlighted in each unit to avoid duplication of information.

Within each unit, literacy strategies have been used to **deconstruct** (pull apart), **jointly construct** (cooperatively put together) and encourage **independent construction** of the text types relevant to that unit.



These three processes help students to understand the literacy requirements of design and technology. For effective teaching and learning to occur, literacy requirements need to be modelled and practised regularly.

There are many ways to write design briefs, depending on the outcomes you wish students to achieve.

The following units have been written within a common design situation. This design situation can cover a number of prescribed context areas. In the sections that follow, three units of work are presented, each as a different design brief. One covers the context area of agriculture, one food and the third leisure and lifestyle.

Design briefs can be open or closed. Open briefs provide students with the opportunity for a diverse range of interpretations and possible solutions. Design briefs can be made more “closed” by building in constraints that the students’ solutions must meet. Closed briefs provide more student support but tend to reduce opportunities for students to display creativity in their approach.

## Design situation

Australians spend a large percentage of their leisure time outdoors. To maximise enjoyment, preparation and organisation are necessary.

### **Design brief 1: The prescribed context: Agriculture**

Design and make a system for growing herbs or vegetables at school, in your own backyard, or on your balcony or window sill.

### **Design brief 2: The prescribed context: Food**

Condiments are used to enhance the natural flavours of food. Develop and test a condiment that could be used when eating outdoors.

### **Design brief 3: The prescribed context: Leisure and lifestyle**

Design and make an item that could be used when entertaining outdoors.



# Design brief 1

*Design and make a garden for growing herbs or vegetables at school, in your own backyard, or on your balcony or window sill.*

## Student outcomes

While a range of design and technology outcomes are addressed in this unit of work, the outcomes listed focus specifically on literacy.

### Knowledge

Students should be able to:

- express orally and in writing the positive and negative consequences for society of various technologies
- debate and discuss the relationship between the use of resources and environmental sustainability
- identify the methods of written and oral communication appropriate to the garden design brief.

### Skills

Students should be able to:

- research and record information related to their design project
- record the progress of their design project, using written and graphical means
- present ideas about garden design and implementation, using the methods, standards and conventions of oral, written and graphical communication
- use the terminology of technology and design to describe and explain a range of agricultural activities
- participate in discussions about an environmental issue for agriculture.

### Attitudes

Students should be able to:

- demonstrate confidence in exploring and representing ideas and issues through discussion
- develop confidence in presenting justifications and opinions when making decisions
- develop the ability to see various points of view and respect other people's opinions.

## Structure of the unit

The following unit of work is designed to be implemented over ten weeks. Literacy strategies are included in each teaching and learning activity. Many of these strategies are expanded. This provides assistance in teaching the literacy elements within the prescribed context. Students will keep a learning journal throughout the unit. The literacy strategies highlighted in this unit relate to the text types, **exposition** and **discussion**, in both written and oral forms. Students will be investigating issues concerned with the disposal of food waste and use of fertilisers, which will lead them to create and interpret expositions and discussions.

There may not be enough time to plant and harvest at school in a 10 week unit of work. The unit may be undertaken in number of ways.

Students may generate designs suitable for planting in containers that can be taken home at the end of the unit. They could develop a design and carry out the planting at home, with practical activities to support growing completed at school.

Where there is a real need at school for a new small-scale agricultural garden area or the opportunity to redesign an existing area, the design brief could be completed at school. In summer, and in some areas, students may even be able to harvest their produce before the end of the unit.

The following practical activities and demonstrations could be included depending on the facilities available at each school:

- maintaining compost heaps
- maintaining worm farms
- planting seeds, seedlings, cuttings
- repotting plants
- planting out plants from pots
- harvesting produce
- using various agricultural computer simulations.

These could be presented as class activities carried out by small groups on a roster basis. If rostered, the activities must be accompanied by clear instructions to guide each group of students.

## Week 1

### Setting a context for learning

- Introduce the agricultural context to students. Define its meaning.
- Using a selection of magazines, brochures and pamphlets such as *Agfacts* from the NSW Department of Agriculture, students work in small groups to construct a collage of pictures and words that relate to the agriculture context. Students will probably use everyday words to describe and label their collages. Provide students with appropriate technical terms which they can add to their collages. Make a vocabulary list of topic-specific words which students can add to during the unit. Meanings should be found, clarified and written next to each word.

For example:

Technical word	Meaning
horticulture	the science or art of growing fruit, vegetables, flowers or ornamental plants

- Introduce the design situation and design brief. Teacher and students analyse the design brief by:
  - finding the **key words** and **phrases** and adding them to the vocabulary list

### Key words

These are significant words that identify important components and convey what needs to be done with them. In the following sentences the key components are underlined. Student actions are in italics.

*Design and make a garden for growing herbs or vegetables at school, in your own backyard, or on your balcony or windowsill.*

- discussing and developing a list of design limitations or constraints
- discussing the properties of a well designed garden system
- developing a set of criteria for success that meets the need and the limitations. The criteria should complete the sentence: *A well designed small-scale herb or vegetable garden will...*
- Students create a **time management plan**, outlining what they plan to do in the following weeks. This will not be added to. Rather, it will be referenced at the end of the project when students evaluate the process they have worked through.

### Time management plan

Week	Task to be completed	Task completed
1	<i>analyse the design brief</i>	<i>Key words identified and defined</i>
2	<i>investigate what plants to grow</i>	

- Teacher models and demonstrates the **recount text type** (BLM 1.1) to be used in a diary, log book or journal as in other units. The journal will be used to record what each student has done each day or week and will be added to as the project progresses. (Blackline masters are included at the end of the unit.)

### Recounts

Recounts are retellings of past events. They are usually written as a series of events in the order in which they happen.

Recounts include an orientation, which helps the reader to locate the events in time and place, and include such language features as:

- descriptive words, used to construct a detailed picture of the world in which the events are taking place
- the past tense, used to relate the events
- time reference words like *the next day*, *then* or *afterwards*, used to link events.

**Week 2**

- Introduce practical activities as outlined on page 25.
- To stimulate discussion of an environmental issue that has implications for agricultural gardens, outline the features of alternative compostable waste management systems, such as:
  - worm farms
  - compost heaps
  - poultry
  - in-sink garbage munchers.
- Students brainstorm in small groups to develop an evaluation spidergram for each method of compostable waste management. A **PMI** can be used to assist them in this activity.

**PMI**

PMI is a strategy which encourages students to investigate and examine all sides of an issue.

Students list:

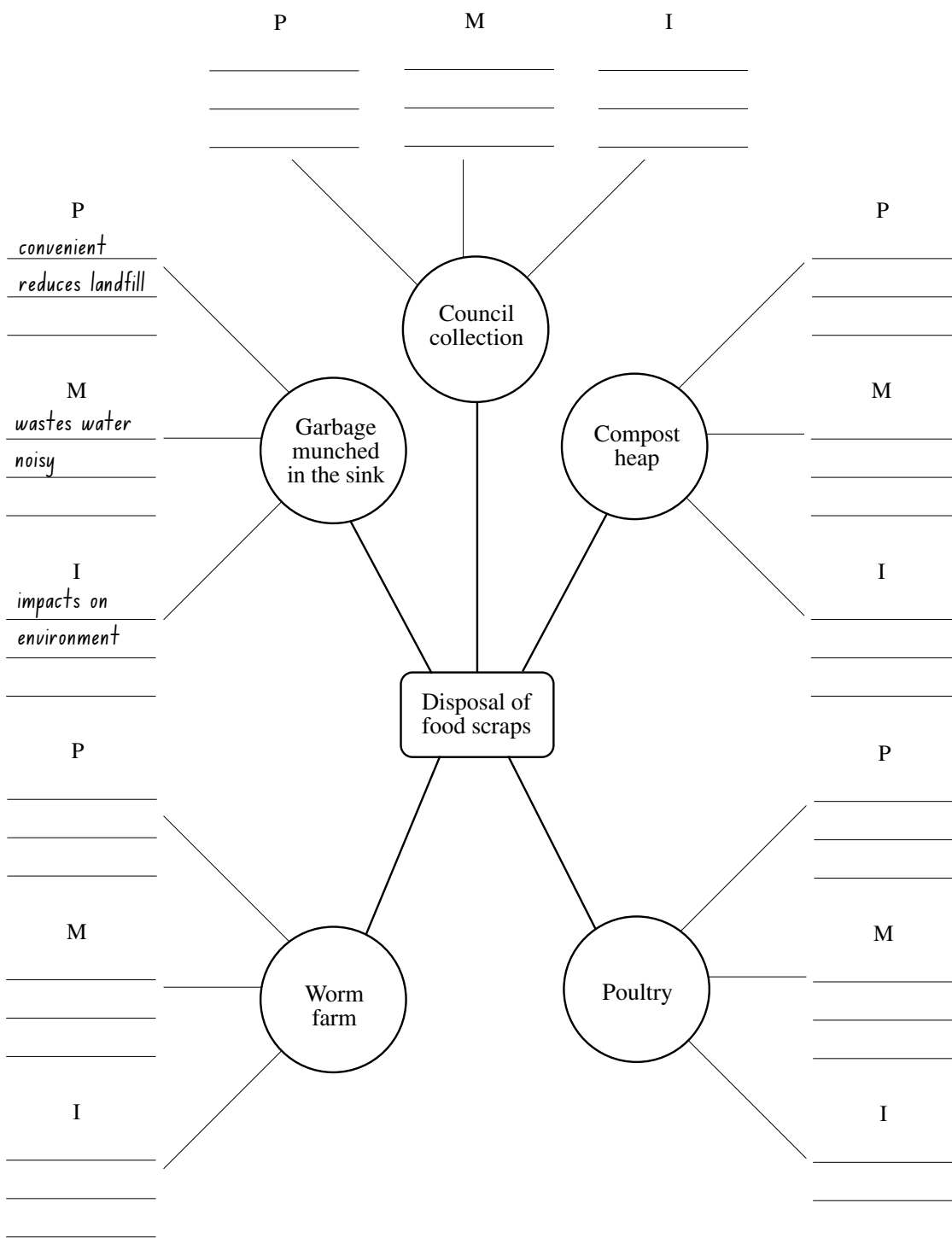
- P (plus): the good things about an idea
- M (minus): the bad things about an idea
- I (interesting): the interesting things about an idea.



- Class works co-operatively to create a **class spidergram**.

### Spidergram

A spidergram can be used to visualise all parts of an issue. The issue is the centre of the spidergram and all aspects of the issue radiate out from this centre. Ideas that arise from each aspect then radiate out on the next level. Here is an example of using a spidergram for the issue of disposal of food scraps.



## Week 2 (continued)

### Focus text: Exposition

#### Purpose of exposition text type

An exposition is used when arguing a particular point of view on an issue, to persuade the audience to a particular viewpoint or action. Only one side of an argument is presented, either for or against. It is often used when expressing opinions about controversial subjects e.g. letters to the editor, debates and editorials.

In design and technology, expositions can be used effectively for writing opinions about issues and for writing justifications for decisions made throughout a design project.

#### Language features of expositions

- generalised nouns e.g. *fertility, nutrients, fish*
- emotive words e.g. *devastating, crisis, valuable*
- words which qualify e.g. *usually, probably, most*
- logical sequence e.g. best argument placed first or last
- linking words e.g. *firstly, in summary, on the other hand, however, therefore, secondly, perhaps*
- simple present tense e.g. *is, provides, generate*
- topic sentences to begin paragraphs. These topic sentences preview the argument in each paragraph.

- Teachers and students deconstruct a **model exposition**.

The text should be copied onto an overhead transparency so that its structure and language features can be highlighted and demonstrated (BLM 1.2, 1.3 and 1.4).

#### Deconstructing an exposition

Deconstructing an exposition involves analysing its parts and functions. It shows students how texts are organised to achieve their purposes and allows you to demonstrate particular language features. By examining the language features and word choices in detail, students can recognise and make explicit the messages and viewpoints which are often implicit in the text.

In discussing the meaning of an exposition, you can use the following questions as a guide:

- What is the issue?
- What is the viewpoint of the writer?
- What are the arguments and how do they relate to one another?
- How many arguments are being presented?
- What is the topic sentence in each paragraph?
- How are the arguments introduced?

- Using the information on the class spidergram, students and teacher jointly construct an exposition to promote one method of managing compostable waste at school. Alternatively, students may work in small groups to construct their own expositions. A scaffold may be used to assist their efforts (BLM 1.5).
- Students independently construct an exposition to justify their use of a particular method at home. Provide another copy of the scaffold BLM 1.5 for students to use.

The following checklist can be used to evaluate the success of an exposition.

- |                          |  |
|--------------------------|--|
| <input type="checkbox"/> | Puts forward a particular point of view  |
| <input type="checkbox"/> | Provides an opening statement  |
| <input type="checkbox"/> | Uses topic sentences to preview an argument  |
| <input type="checkbox"/> | Presents the stages of an argument in a logical order                                      |
| <input type="checkbox"/> | Makes recommendations or suggests actions  |
| <input type="checkbox"/> | Uses paragraphing  |
| <input type="checkbox"/> | Sums up the argument   |
| <input type="checkbox"/> | Uses simple present tense showing time and linkages between cause and effect               |
| <input type="checkbox"/> | Most high frequency words are spelt correctly e.g <i>plant, garden, because, vegetable</i> |
| <input type="checkbox"/> | Most subject-specific terms are spelt correctly.   |

### Week 3

- Practical activities continue.
- Investigation topics include:
  - small-scale agricultural gardens
  - the growing conditions at school or at home
  - agricultural produce.

#### Small-scale agricultural gardens

- Organise a visit to a nursery or small-scale agricultural garden where students can observe, photograph, sketch and note key features of the garden systems.
- Students and teacher identify the information to be collected and questions to ask. Direct students to collect information about the types of fertilisers employed. Students document the information obtained from the visit to the nursery in their design folios.

#### The growing conditions at school or at home

- Students draw a map of the possible areas they can use for their garden.  
Conventions for students may need to be investigated. Find examples of landscaping plans to demonstrate to students the appropriate style.
- Students investigate and list the soil, sun and water conditions for their selected area.  
Students may need assistance with using the appropriate technical language, e.g. *full sun, shade, moist*, etc.

#### Agricultural produce

- Lead a class activity to **list, group, label** the possible choices of herbs and vegetables.
  - Students use gardening books or other resources to narrow the list to include only herbs and vegetables that will grow in the conditions of their selected area.
  - Students interview their family to narrow the list of possible products; they should include only the herbs and vegetables that their family members will use.

##### List, group, label

This activity assists students to categorise words or groups of words into similar classes.

To generate choices of herbs and vegetables to grow at this time of year:

- Students individually list possible agricultural produce.
  - In small groups, they pool their ideas and group into similar categories e.g. herbs, leafy greens, root vegetables.
  - They label each group according to its classification.
  - Students present their chart to the class, explaining how they have grouped the ideas and why they grouped them in that way.
- Students create a fact sheet for each plant they have selected to grow. Sheets should include such details as name, growing conditions, size and time span.
  - Students complete a short journal entry about their practical experiences at school.

**Week 4**

- Practical activities continue.
- Teachers assist students to:
  - consider and record possible design ideas
  - talk with parents, teacher and peers to develop at least three draft designs for their garden
  - make rough sketches of each idea, labelling features and conditions
  - evaluate each idea by doing a PMI. This is used to add a short written evaluation, in point form, to each sketch.
- Students complete a short journal entry about:
  - the development of their ideas and design proposals
  - their practical experiences at school.

## Weeks 5 and 6

- Practical activities continue.
- Students refer to their criteria for success and to the evaluations of their ideas, in order to choose the design proposal that best meets the requirements of the design brief.

### Focus text: Discussion

#### Purpose of discussion text type

A discussion is used to present information about and arguments for both sides of an issue. Issues are explored from different viewpoints. A recommendation is developed based on the weight of evidence. Discussions may be used in environmental impact studies.

In design and technology, discussions can be used effectively for discussing issues and for evaluating design proposals, projects, products and materials and discussing and recommending criteria for the success of a project.

#### Language features of discussions

- simple present tense, e.g. *are demanding, are made from, contain*
  - linking words, e.g. *however, in conclusion, on the other hand*
  - generalised nouns, e.g. *fertiliser, produce, growers*
  - words which qualify, e.g. *less prone*
  - sequence determined by logic rather than by time
  - topic sentence to introduce paragraphs.
- With students, analyse and model the **discussion** text type, comparing it with the exposition (BLM 1.6, 1.7 and 1.8). Features are identified which suggest discussion is an appropriate text type for writing evaluations.

*Note to teachers: This particular text may prove difficult for many students, so time should be spent in discussing the text before looking at its structure and features. In particular, you should establish that students understand the concepts “organic fertilisers” and “manufactured fertilisers” and the controversy surrounding fertiliser use.*

## Deconstructing a discussion

Deconstructing a discussion involves analysing its parts and their functions. It shows students how texts are organised to achieve their purposes and allows you to demonstrate particular language features.

In deconstructing the meaning of a discussion you could use the following questions as a guide:

- What is the issue?
- How is the discussion divided up on the page?
- What is the viewpoint of the writer?
- What are the arguments?
- How many points are there for the argument?
- How many points are there against the argument?

- Jointly construct a discussion using **jumbled text** (BLM 1.9). Students rearrange the pieces of text into the correct sequence. They then compare their text with the master copy (BLM 1.10) and discuss which organisational and language features enabled them to complete the task. Point out to students the ways in which arguments are introduced and then elaborated upon.

*Note to teachers: The sample text deals with “soluble and insoluble fertilisers”. You will need to establish that students understand these terms. Remind students of the types of fertilisers they saw in use during their excursion.*

- Students write a **discussion text**, entitled “Evaluation that led to my final design choice”.

Students may need assistance in writing discussions. One way of helping is to provide a scaffold (BLM 1.11). This may be useful for joint construction or independent use.

The following checklist can be used to evaluate the success of a discussion.

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | Demonstrates an understanding of the need to justify different opinions on an issue         |
| <input type="checkbox"/> | Provides a clear opening statement  |
| <input type="checkbox"/> | Presents the stages of an argument in a logical order, showing both sides of the argument   |
| <input type="checkbox"/> | Makes recommendations or suggests actions   |
| <input type="checkbox"/> | Uses paragraphing to organise information   |
| <input type="checkbox"/> | Sums up the argument  |
| <input type="checkbox"/> | Uses simple present   |
| <input type="checkbox"/> | Uses words to show cause and effect   |
| <input type="checkbox"/> | Most high frequency words are spelt correctly e.g. <i>plant, garden, because, vegetable</i> |
| <input type="checkbox"/> | Most subject-specific terms are spelt correctly.  |

**Weeks 5 and 6 (continued)**

- Students create an accurate drawing of their final design choice. Labels should be included to identify resources (tools, equipment and materials) required for making the design.
- Brainstorm safety issues related to:
  - working outside
  - working in the garden
  - using chemicals in the garden.
- Students work in small groups to develop safety information that includes “safety rules”, “what could go wrong” and “first aid procedures in case of accidents” for each of the areas considered above. They then select methods of publishing, including posters, pamphlets, fact sheets, whichever will best communicate the particular information.
- Students begin the production of their garden proposals.
- Students then complete a short journal entry about their practical experiences at school and the progress of their gardens.

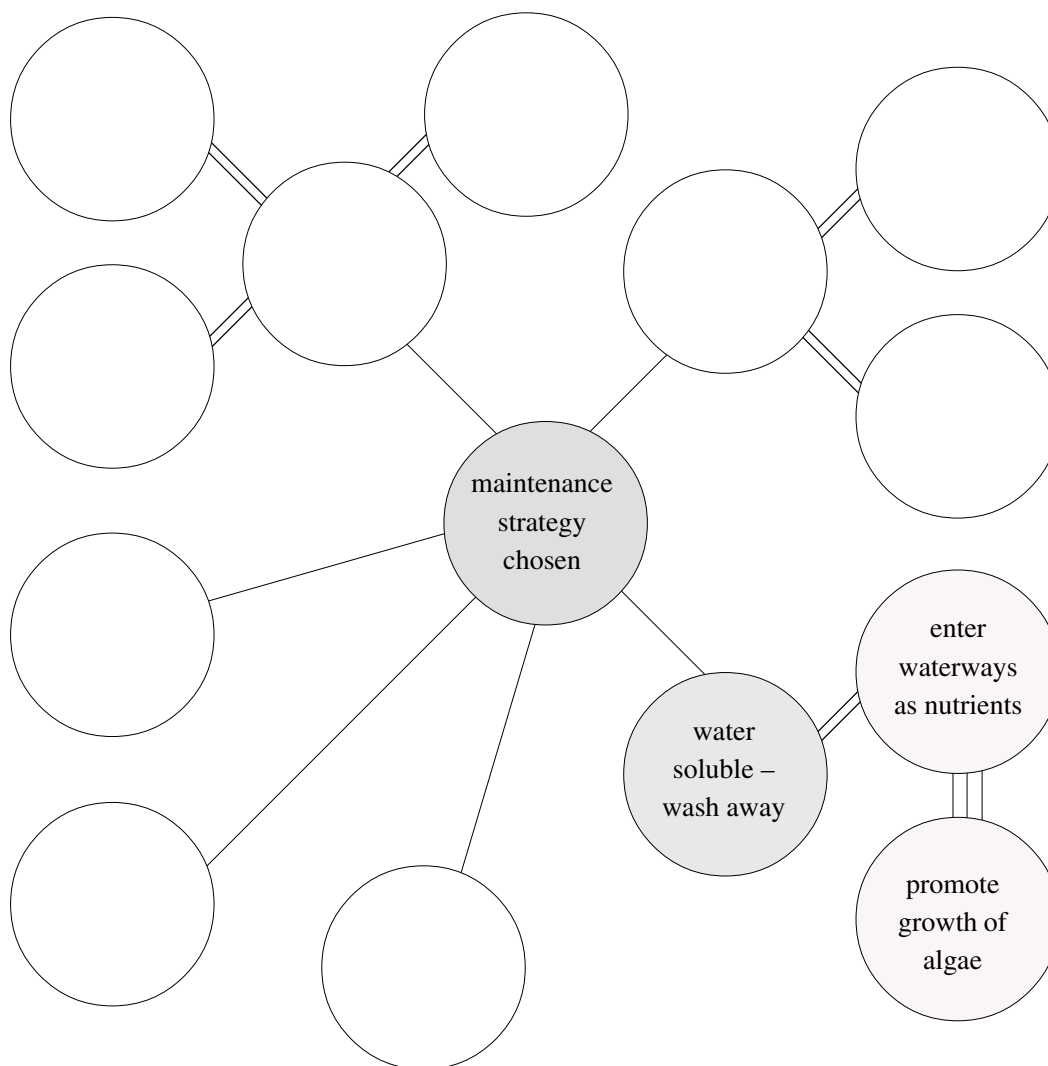


## Weeks 7 and 8

- Practical activities continue.
- Continue garden production.
- Outline environmental considerations of appropriate crop production with students.
- Teacher and students work co-operatively to develop a **consequences wheel** for some of the maintenance strategies that could be used in small-scale production, e.g.
  - various watering methods
  - fertiliser use
  - pest control
  - amount and type of cultivation.

### Consequences wheel

Consequences wheels are used to encourage students to consider short and long-term consequences of actions. Begin with an action or strategy located in the hub of the wheel. Direct consequences of this action are then linked to the hub with single lines. The consequences of these consequences (i.e. the secondary consequences) are linked with double lines and so on.



## Weeks 7 and 8 (continued)

- Set up groups to present a **soapbox event** about an environmental issue in agriculture, such as:
  - Everybody should pay extra to have their compostable waste collected, composted and used by farmers as fertiliser.
  - Quick release, soluble fertilisers are best because they have an immediate impact on crop health.
  - Urban agriculture should be encouraged.

Each group prepares an oral exposition for or against the selected issue to present at the event. You will need to ensure that there is a balance of speakers for and against.

### Soapbox event

This is not as formal as a debate but can be run along similar lines.

Oral presentations can be initially written in exposition format, giving one side of the argument.

Some consideration has to be given to the type of audience, the purpose of the presentation and the language features of the exposition, as it will be presented in oral rather than written form.

Peer evaluation would be appropriate for this activity. Negotiate with the students the criteria to be used for this evaluation prior to holding the event.

Criteria could include:

- relevance of information to the topic
  - use of evidence to support claims
  - use of persuasive language
  - ability to maintain eye contact with audience
  - ability to be heard by audience
  - variations of pitch, tone and intonation.
- Students complete a short journal entry about:
    - the progress of their garden
    - their practical experiences at school.

**Weeks 9 and 10**

- Practical activities continue.
- Continue garden production.
- Students write a maintenance program for their garden.
- Students evaluate their garden and portfolio, as well as evaluating their use of the design process by using PMIs or similar evaluation methods. From their PMIs, students write a discussion to present their evaluations.
- Students refer to time management plan (Week 1) and evaluate the project against their plan.
- Students then reflect on the design project as a whole by doing an additional PMI.
- Students design a method of presenting their design project for display. Brainstorm methods of creating a visual display incorporating plans, models, photography and samples of produce.
- Students exhibit their design projects.

## BLM 1.1: Recount text annotated to show language features

## Journal entry

In this **initial** lesson we did an analysis of the design brief. *First* we identified the **key** words in the design brief. *Then* we added these words to our vocabulary list. *After* this we discussed and developed a list of design limitations and constraints. *Finally* we discussed the properties of a **well designed** garden system.

- underlined type – past tense
- *italic type* – time reference words
- **bold type** – descriptive words.

It is often necessary to assist students in constructing a recount. One way of helping is to provide a scaffold. The following is an example of a recount scaffold for a journal entry. Students complete the sentences in their journal.

## Recount scaffold

Orientation:

In this initial lesson we \_\_\_\_\_

Sequence of events:

First we \_\_\_\_\_

\_\_\_\_\_

Then we \_\_\_\_\_

\_\_\_\_\_

After this we \_\_\_\_\_

\_\_\_\_\_

Finally we \_\_\_\_\_

\_\_\_\_\_

## BLM 1.2: Structure of an exposition

Within an exposition each paragraph introduces a new argument. Usually the first sentence previews the argument, which is then elaborated in the following sentences.

### Composting

*Thesis: introduces issue and position to be argued*

Composting is an important method for increasing soil fertility and reducing the amount of garbage being added to landfill sites.

*Arguments*

Composting food scraps and other household waste, such as paper, provides valuable nutrients for the soil. Because organic matter is being returned to the soil the benefit is twofold. The nutrients from the composting materials increase the fertility of the soil and therefore its productivity and also reduce the necessity of using artificial fertilisers.

The overuse of fertilisers in some areas of Australia has led to problems such as salination of the soil and the river systems. Soil salination has caused many trees to die, resulting in erosion of the land. The extra nutrients from fertilisers which are washed into the river systems have also led to an increased growth of algae, with devastating effects on fish and other marine life.

By composting food scraps the average household can halve the amount of garbage thrown out. Many of our large cities are already facing a crisis in finding ways of dealing with the huge quantities of garbage we generate. Filling gullies with household waste is both environmentally and economically unsound.

*Reiteration of thesis*

If every household composted food scraps, the benefits to the environment would be enormous.

**BLM 1.3: Exposition text annotated to show argument previews**

Text annotated to show how arguments are previewed or introduced and elaborated upon. This is referred to as *point* and *elaboration*.

## Composting

Composting is an important method for increasing soil fertility and reducing the amount of garbage being added to landfill sites.

*Composting food scraps and other household waste, such as paper, provides valuable nutrients for the soil.* Because organic matter is being returned to the soil the benefit is twofold. The nutrients from the composting materials increase the fertility of the soil and therefore its productivity and also reduce the necessity of using artificial fertilisers.

*The overuse of fertilisers in some areas of Australia has led to problems such as salination of the soil and the river systems.* Soil salination has caused many trees to die, resulting in erosion of the land. The extra nutrients from fertilisers which are washed into the river systems have also led to an increased growth of algae, with devastating effects on fish and other marine life.

*By composting food scraps the average household can halve the amount of garbage thrown out.* Many of our large cities are already facing a crisis in finding ways of dealing with the huge quantities of garbage we generate. Filling gullies with household waste is both environmentally and economically unsound.

If every household composted food scraps, the benefits to the environment would be enormous.

## BLM 1.4: Exposition text annotated to show particular language features

## Composting

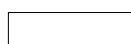
Composting is an **important method** for increasing soil **fertility** and reducing the amount of **garbage** being added to landfill sites.

Composting food **scraps** and other household **waste**, such as **paper**, **provides** **valuable nutrients** for the **soil**. Because organic **matter** is being returned to the soil the benefit **is** *twofold*. The **nutrients** from the composting **materials** **increase** the **fertility** of the soil and therefore its **productivity** and also **reduce** the necessity of using artificial **fertilisers**.

The overuse of fertilisers in some areas of Australia has led to **problems** such as salination of the **soil** and the river systems. Soil **salination** has caused many **trees** to die, resulting in erosion of the land. The extra nutrients from **fertilisers** which are washed into the river systems have also led to an increased **growth** of algae, with **devastating effects** on **fish** and other marine life.

By composting food scraps the average household can halve the amount of garbage thrown out. Many of our large cities are already facing a **crisis** in finding ways of dealing with the huge quantities of garbage we **generate**. Filling gullies with household waste is both environmentally and economically unsound.

Therefore if every household composted food scraps, the benefits to the environment would be enormous.



some examples of generalised nouns

**Bold type**

emotive words, used to persuade reader to a particular position.

*Italic type*

words which link arguments

underline type

cause and effect linkage



verbs in simple present tense

**BLM 1.5: Exposition scaffold**

Thesis:

Issue and position:

Arguments:

1.

2.

3.

Reiteration of thesis:

Conclusion/summary:



**BLM 1.6: Discussion text annotated to show text organisation**

## Fertilisers

*Statement  
of issue*

Recently there has been a great deal of discussion about the benefits of using organic fertilisers rather than those which have been manufactured from chemicals.

*Arguments  
for*

Consumers are increasingly demanding organically grown fruit, vegetables and grain. These people insist that the produce they buy should be grown using only natural fertilisers. Not only do they believe that this will produce a more nutritious product, but that there are serious side effects from eating foods which have been grown using manufactured fertilisers.

Supporters of organic fertilisers claim that their use increases yield and that this is translated into increased profitability. They also believe that the foods look and taste better and are less prone to insect damage.

They state that since these fertilisers are made from naturally occurring substances they do not harm the environment.

*Arguments  
against*

On the other hand, recent studies have demonstrated that manufactured fertilisers are not contributing to the pollution of our river systems. In fact many of the so-called organic fertilisers contain high levels of toxic substances. Some blood and bone products on the market have been found to contain up to 30% pelleted sewage sludge. When analysed this was found to contain concentrations of lead and cadmium.

One particular benefit of using manufactured fertilisers is that the exact amount of nutrients is known, thereby enabling the grower to calculate exactly the quantity required and time the application for maximum benefit.

*Conclusion*

In conclusion, growers need to consider carefully the benefits and problems associated with different forms of fertilisers and decide which will best suit their needs.

## BLM 1.7: Discussion text annotated to show argument previews

Text annotated to show how arguments are previews or introduced and elaborated upon. This is referred to as *point* and *elaboration*.

## Fertilisers

Recently there has been a great deal of discussion about the benefits of using organic fertilisers rather than those which have been manufactured from chemicals.

*Point* Consumers are increasingly demanding organically grown fruit,  
*Elaboration* vegetables and grain. These people insist that the produce they buy should be grown using only natural fertilisers. Not only do they believe that this will produce a more nutritious product, but that there are serious side effects from eating foods which have been grown using manufactured fertilisers.

*Point* Supporters of organic fertilisers claim that their use increases yield  
*Elaboration* and that this is translated into increased profitability. They also believe that the foods look and taste better and are less prone to insect damage.

They state that since these fertilisers are made from naturally occurring substances they do not harm the environment.

*Point* On the other hand, recent studies have demonstrated that  
*Elaboration* manufactured fertilisers are not contributing to the pollution of our river systems. In fact many of the so-called organic fertilisers contain high levels of toxic substances. Some blood and bone products on the market have been found to contain up to 30% pelleted sewage sludge. When analysed this was found to contain concentrations of lead and cadmium.

*Point* One particular benefit of using manufactured fertilisers is that the  
*Elaboration* exact amount of nutrients is known, thereby enabling the grower to calculate exactly the quantity required and time the application for maximum benefit.

In conclusion, growers need to consider carefully the benefits and problems associated with different forms of fertilisers and decide which will best suit their needs.

## BLM 1.8: Discussion text annotated to show language features

## Fertilisers

Recently there has been a great deal of discussion about the **benefits** of using organic **fertilisers** rather than those which have been manufactured from **chemicals**.

**Consumers** are **increasingly demanding** organically grown **fruit**, **vegetables** and **grain**. These **people** **insist** that the produce they buy should be grown using **only natural** **fertilisers**. Not only do they **believe** that this will produce a **more nutritious** product, but that there **are** serious side effects from eating foods which have been grown using manufactured fertilisers.

**Supporters** of organic fertilisers **claim** that their use **increases** yield and that this **is translated** into increased **profitability**. They also **believe** that the foods **look** and **taste** **better** and are **less prone** to insect damage.

They **state** that since these fertilisers **are made** from naturally occurring substances they do not harm the **environment**.

*On the other hand*, recent studies have demonstrated that manufactured fertilisers are not contributing to the **pollution** of our river systems. In fact many of the so-called organic fertilisers contain high levels of toxic **substances**. Some blood and bone **products** on the market have been found to contain up to 30% pelleted sewage sludge. When analysed this was found to contain concentrations of lead and cadmium.

One particular benefit of using manufactured fertilisers is that the **exact amount** of nutrients is known, *thereby* enabling the grower to calculate exactly the quantity required and time the application for maximum benefit.

*In conclusion*, growers need to consider carefully the benefits and problems associated with different forms of fertilisers and decide which will best suit their needs.

**Bold text** words which qualify

*Italic text* words which link arguments

○ verbs in simple present tense

□ some generalised nouns

**BLM 1.9: Discussion – jumbled text**

“Soluble fertilisers” produce quick results.

However, because “insoluble fertilisers” are slow to break down and dissolve they are less easily washed away in rain water.

When choosing a fertiliser the issues of slow versus quick results and overall wastage need to be considered.

In making a decision about whether to use “soluble” or “insoluble” fertilisers you need to consider the initial cost, the speed of uptake, the loss involved and the frequency of application before a final cost can be calculated.

However, “soluble fertilisers” also wash away quickly because they also dissolve in rain water.

Farmers and gardeners use fertilisers to grow healthy crops but fertilisers can also cause problems if the wrong ones are used or they are over-used. Use of chemical fertilisers that are easily dissolved must be weighed against the use of less soluble fertilisers like compost.

“Insoluble fertilisers” need to break down before they dissolve in soil water. These fertilisers, like compost, manure and superphosphate, produce results slowly.

Because they take so long to break down and dissolve, the nutrients are taken up by the plants more slowly.

“Soluble fertilisers” dissolve in soil water quickly and are taken up by plants quickly. The plants can then grow faster and bigger.

After considering all these factors it is recommended that, whenever possible, “insoluble fertilisers” like compost and superphosphate be used instead of the faster acting “soluble fertilisers”.

### **Choosing a fertiliser**

**BLM 1.10: Discussion – jumbled text (answer)**

*Note: Sample texts may need to be adapted to best suit the specific needs of your students.*

## Choosing a fertiliser

Farmers and gardeners use fertilisers to grow healthy crops. Fertilisers can also cause problems if the wrong ones are used or they are over-used. Use of chemical fertilisers that are easily dissolved must be weighed against the use of less soluble fertilisers like compost.

When choosing a fertiliser the issues of slow versus quick results and overall wastage need to be considered.

“Soluble fertilisers” produce quick results.

“Soluble fertilisers” dissolve in soil water quickly and are taken up by plants quickly. The plants can then grow faster and bigger.

However, “soluble fertilisers” also wash away quickly because they also dissolve in rain water.

“Insoluble fertilisers” need to break down before they dissolve in soil water. These fertilisers, like compost, manure and superphosphate, produce results slowly.

Because they take so long to break down and dissolve, the nutrients are taken up by the plants more slowly.

However, because “insoluble fertilisers” are slow to break down and dissolve they are less easily washed away in rain water.

In making a decision about whether to use “soluble” or “insoluble” fertilisers you need to consider the initial cost, the speed of uptake, the loss involved and the frequency of application before a final cost can be calculated.

After considering all these factors it is recommended that, whenever possible, “insoluble fertilisers” like compost and superphosphate be used instead of the faster acting “soluble fertiliser”.

## Evaluation that led to my design choice

Statement of issue

- Definition
- Background
- Preview

Arguments for

- point
- elaboration
- point
- elaboration

Arguments against

- point
- elaboration
- point
- elaboration

Recommendation/summary



# Design brief 2

*Condiments are used to enhance the natural flavours of food.  
Develop and test a condiment that could be used when eating outdoors.*

## Student outcomes

While a range of design and technology outcomes are addressed in this unit of work, the outcomes listed focus specifically on literacy.

### Knowledge

Students should be able to:

- identify appropriate criteria for evaluating condiments through a negotiated evaluation strategy developed in discussion
- identify and discuss the methods of written and oral communication appropriate to the design brief
- identify and discuss the strengths and weaknesses of the conventions of graphic communication used on food labels
- identify marketing strategies that could be used to sell the product and debate the appropriateness of them.

### Skills

Students should be able to:

- research and report information related to condiment recipes
- experiment with possible condiment recipes by conducting taste test surveys and recording results
- use computer technology to obtain, manipulate and communicate information about reactions to condiments
- present ideas about condiments using the methods, standards and conventions of oral, written and graphical communication
- use the terminology of design and technology to explain the development and testing of a condiment
- interpret a range of technical language and symbols in describing condiments.

## Attitudes

Students should be able to:

- develop confidence in using technologies in designing, testing, surveying and recording
- achieve quality of expression by meeting the criteria for success as previously negotiated
- develop confidence in exploring and representing ideas through discussion
- develop the ability to see various aspects and respect other people's opinions
- appreciate the values and subtleties of various means of expression.

## Structure of the unit

The following unit of work is designed to cover ten weeks. Literacy strategies are included in each activity. Many of these strategies are expanded. This provides assistance in teaching the literacy elements within the prescribed context.



## Week 1

### Analysis of design brief

- Introduce the design situation and brief. Students identify **key words** and use a dictionary to define these words.

#### Key words

These are significant words that identify important components and convey what needs to be done. In the following sentences the key components are in bold. Student actions are in italics.

**Condiments** are used to **enhance** the **natural flavours** of food.  
*Develop* and *test* a condiment that could be used when **eating outdoors**.

- Students complete **cooperative cloze** passages to demonstrate a knowledge of word meanings.

#### Cooperative cloze

This type of exercise encourages students to work together with a passage from which some words have been deleted. Students decide on the best word or words to fill the gap, using contextual cues provided in the passage.

For example:  
..... is something used to give a special or additional flavour to food.

- Negotiate and record the **criteria for success** of a condiment according to the need and constraints of the design brief.

#### Negotiated criteria for success

Having students debate and agree on the elements for a successful result will help them clarify the task. The following list is a sample set of criteria:

- ☐ Sample condiment made
- ☐ Word processed recipe presented in procedural text format
- ☐ Label for condiment package shows required information
- ☐ Packaging is visually appealing
- ☐ Written and oral explanations of the process are presented appropriately
- ☐ Journal completed in correct recount text format

## Week 1 (continued)

### Focus text: Recount

#### Purpose of recount text type

Recounts are retellings of past events. They are usually written as a series of events in the order in which they happen. In design and technology they might take the form of a diary or journal. Teachers may use recounts to review past work with students, to retell what was expressed in a video or to present the key elements and features of an excursion.

#### Language features of recounts

The first aspect of a recount is its orientation. This tells us about who, what, where and when. It helps the reader to locate the events in time and place. This is followed by the retelling of the events in sequence.

The following language features are often used in a recount:

- Descriptive words are used to construct a detailed picture of the world in which the events are taking place.
- Typically, the past tense is used to relate the events.
- Events are linked together by time reference words like *the next day*, *once* or *afterwards*.

- Introduce the text type **recount** and identify its features.

In deconstructing a recount you could use the following questions as a guide for students to identify text features.

- Does it tell us *who*, *what*, *where*, *when* about events?
- Which words are used to indicate time sequence?
- Which descriptive words have been used?
- What tense is it written in?

- A model of a recount demonstrating how a journal entry is constructed is provided (BLM 2.1).

- Students make their own recount in their personal journal. A scaffold for students to use when writing their own journal is provided (BLM 2.2).

The following checklist can be used to evaluate the success of a recount.

- ☐ Reconstructs past experiences
- ☐ Uses a consistent theme
- ☐ Shows orientation to the topic
- ☐ Provides the sequence of events in chronological order
- ☐ Uses time words
- ☐ Uses past tense
- ☐ Uses words to describe place
- ☐ Most high frequency words are spelt correctly e.g. *design brief, analyse, criteria*
- ☐ Most subject-specific terms are spelt correctly.

## Week 2

- Initiate **brainstorm** activity on the types of condiments available today.

### Brainstorm

This is used to activate a learner's background knowledge by creating a large and diverse collection of words and information. One way to carry out a brainstorm is for students to contribute their thoughts on a given topic. Write these on the board without comment or change.

By generating a free flow of words you can trigger new ideas. This stimulates students to make links from their own knowledge. Brainstorming may be completed in small groups or as a whole-class activity. The following steps may be used as a guide.

- Clearly state the topic.
- Choose a recorder.
- Ask each student to record four or five ideas privately before sharing.
- Set the rules: no criticism, all answers are valued.
- Encourage a free flow of ideas, especially valuing the unusual.
- Leave explanations until later.

Brainstorming supports learning by:

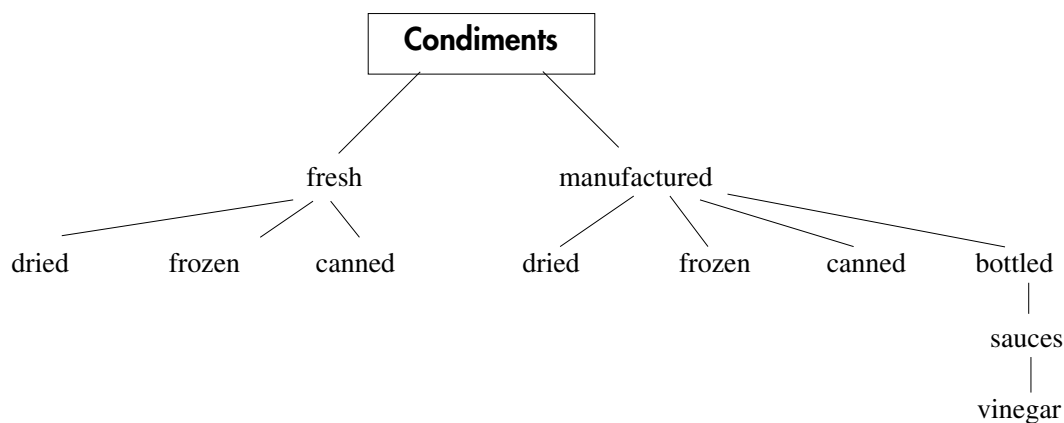
- drawing on background knowledge
- allowing others to hear new knowledge
- encouraging creativity.

- Model classifying this information using a **structured overview**.

### Structured overview

This allows students to group words into logical areas using visual frameworks while activating their background knowledge and identifying new information. Individuals brainstorm words related to a topic and record them on A3 paper. A scaffolded sheet is then given to students, outlining the main area of the topic. Students then organise words into these areas.

The following is an example of a structured overview.



- Negotiate field names to be used for week 3 **database** and use these as headings for organising excursion information.

## Databases

These are collections of information organised into categories. Computer databases allow students to store, analyse and retrieve information very quickly.

In designing the organisation of a database, students need to divide their information into categories or “fields”. It is important that a different field is used for each part of the information that might be required for a later search or sort. For example, if a student’s whole name is recorded in a single field, you might not be able to organise the data alphabetically, by surname.

Each item described on the database is called a “record”. A record contains a number of different fields containing a specific piece of information, such as a surname or date of birth. The diagram below demonstrates the difference between a file, a record and a field.

### Condiment database

Field	Item	Brand	Major ingredient	Flavourings	Colourings	Type	Packaging	Serving suggestions	
Record	Taco sauce	Old El Paso	Tomatoes, onion, capsicums	Salt, chilli, sugar	432	Savoury	Glass bottle	Tacos	File

Test the field headings by analysing a condiment obtained from a food store.

- Students visit a local supermarket to gain information on the types of condiments available and the packaging and labelling of the products.

## Week 2 (continued)

- Analyse the features of **labelling** used for condiments.

### Features of labels

The following elements are commonly found on food products. Students need to be able to classify and analyse features and assess their intended impact.

Information found on labels for food products include:

- the name of the product
- the manufacturer's name and address
- weight
- the use-by date
- the bar code
- the ingredients
- serving suggestions.

Font size: this varies depending on the purpose of the information.

Font style: this varies according to the target market for the product.

Graphics: these have various uses depending on the target market.

Visual appeal: the layout depends on such things as product type, target market, cost of product etc.



- Negotiate the features to be included on students' condiment labels, e.g. name, ingredients, use by date, colourings, preservatives.

## Focus text: Explanation

### Purpose of explanation text type

Explanation texts detail how or why things happen. They can be about a wide range of subjects. In design and technology explanations can be used to describe:

- how a technical effect is achieved
- how a piece of equipment functions
- why a particular material behaves the way it does
- why things happen the way they do.

Explanation texts have several elements including:

- Phenomenon identification: identifying the thing to be explained.
- Explanation sequence: describing the order of events.
- Consequence: including the outcomes or results of actions.

The sequence of events or processes can be joined together in two main ways. The first is by cause-and-effect links using such words as *because*, *as a result*, *causes*, *is caused by*, *is due to*. The second is by time links, using such words as *after*, *following*, *then*, *initially*.

### Language features of explanations

The language of explanations is often characterised by the use of technical terms common to the subject. It also features nominalised terms. In explanations, these nominalisations often refer to processes which have become nouns, e.g. "... and so the herb dehydrates. This dehydration ..."

This means the student needs to make a connection between the action of the herb *dehydrating* and the name of the process, *dehydration*.

The language is generalised in this example. For example, we talk about classes of things rather than individual things, e.g. *herbs*, not *my herbs*. The tense is generally simple present, as in reports. This gives a sense of timelessness.

- Analyse an **explanation text** and model it using a cloze passage (BLM 2.3). Known words have been omitted.

In deconstructing an explanation, you can use the following as a guide for students to identify text features:

- What is the phenomenon being explained?
- What is the sequence of events which explains the process?
- What words indicate a sequence?
- What words indicate cause and effect?

*NB: In design and technology, explanation writing will often form part of a larger text where students are justifying design decisions.*

- Jointly construct a journal entry using a recount scaffold, as in week 1.

### Week 3

- Students taste and compare condiments and record information using the database developed in week 2.

Field	Item	Brand	Major ingredient	Flavourings	Colourings	Type	Packaging	Serving suggestions
Record	Taco sauce	Old El Paso	Tomatoes, onion, capsicums	Salt, chilli, sugar	432	Savoury	Glass bottle	Tacos

File

- Brainstorm purposes of databases. Discuss with students advantages of organising and recording information in this form.
- In groups students order the **jumbled text** to correctly sequence the procedure for creating a database (BLM 2.4a and 2.4b).
- With students demonstrate how to sort data according to different fields.
- Initiate a **floor storming** exercise on the theme “outdoor activities where food is eaten”.

#### Floor storming

Floor storming is a combination of structured overviews, mind mapping and brainstorming. A picture stimulus is placed on the floor and blank paper is placed around the picture. Students take it in turns to add words or ideas related to the topic. In this way key words and concepts are identified. These words can be further grouped by using a structured overview.



## Week 4

### Focus text: Procedure

#### The purpose of procedural texts

Procedures give us instructions about how to do or make something. Procedures are important in design and technology and can be used in a variety of situations and activities such as:

- detailing the steps in a design process
- setting out experimental methods
- detailing construction steps for making a product
- detailing the sequenced steps to be carried out in a process.

Procedural texts provide the reader with steps, in logical order, to understand the sequence or process. They usually contain the following elements:

#### *The goal*

The first stage of procedural text usually states the aim which is to be achieved. It might name the end product, its purposes or its key functions.

#### *Materials (resources)*

This is an optional stage where resources, including materials or equipment needed to achieve the goal, are listed. This might set out specifications, quantities or costs.

#### *Steps*

The steps are set out in the order in which they are to be performed. Each step needs to be described in sufficient detail for the person doing the assembly to clearly understand how it is done.

#### Language features of procedures

The following language features are often used in procedures:

- technical language
- sentences beginning with a command, e.g. *collect, place*
- words or phrases that specify how, where or when e.g. *place carefully, after 5 minutes*.

The layout is an important characteristic of many procedures. By placing each step on a new line, the writer points to the order in which the steps are to be performed. These are often numbered so that it becomes unnecessary to use time words, e.g. *next, then, after that*.

- Demonstrate for students the features of **procedural texts** as used in recipes.
- Students independently follow procedural text (recipe) to produce picnic foods.
- Students independently construct journal entry.

## Week 5

- Initiate a brainstorm activity to identify food types, categories and links with condiments.
- Jointly construct an **explanation** of why specific condiments are served with certain foods (BLM 2.6).

The following checklist may be useful to determine the success of an explanation text.

- ☐ The text establishes why things are as they are or how things work
- ☐ It has a consistent theme, i.e. it stays on the topic
- ☐ The text has a general statement which defines and describes the phenomenon
- ☐ The explanation has a logical sequence
- ☐ The text is organised into paragraphs, usually to signal the different stages of the explanation
- ☐ It has a concluding statement
- ☐ It makes use of technical language
- ☐ It is written in the simple present tense
- ☐ It uses suitable action verbs
- ☐ Nominalisation is used where appropriate, e.g. *the drying process*
- ☐ Most high frequency words are spelt correctly e.g. *dried, herbs, flavour*
- ☐ Most subject-specific or technical terms are spelt correctly e.g. *dehydration, evaporation*

- Students independently prepare BBQ foods, following a recipe.
- Jointly construct a journal entry using **recount text**.

**To check that students are using the recount text correctly when making journal entries, a joint construction is completed on the board, using this scaffold**

*Orientation (who, what, when, where, why)*

*Sequence of events*

*Conclusion (optional)*

**Week 6**

- Students list ideas for the development of their own condiment.
- Initiate brainstorm activity to identify the limitations on preparation of the condiment according to analysis of the brief (week 1).
- Students recall criteria for success from week 1.
- Students research recipe books to develop ideas for their condiment.
- Using the information skills of defining, selecting, locating and evaluating, students research information on the ingredients from a variety of sources, including the Internet. For further information refer to design brief 3, “Locating information on the Internet”, and to the document, *connect.edu: Internet in teaching and learning*, NSW Department of School Education (1997).
- Students practise recipe writing technique, using **procedure scaffold** (BLM 2.7).
- Students independently develop their own condiment recipe.
- Students construct journal entry independently.

**Week 7**

- Students continue development of recipe.
- Using prior computer knowledge, students type out their recipe.

The following checklist can be used to evaluate the recipe.

- |                          |                                  |
|--------------------------|----------------------------------|
| <input type="checkbox"/> | Appropriate recipe format        |
| <input type="checkbox"/> | Ingredients in order of use      |
| <input type="checkbox"/> | Logical sequence of steps        |
| <input type="checkbox"/> | Appropriate font, size and style |
| <input type="checkbox"/> | Spelling is correct              |
| <input type="checkbox"/> | Typing is accurate               |

- Negotiate criteria for assessing word processing of recipe.
- Jointly construct a **taste test survey** for consumers to comment on the proposed condiment. Teachers use the **survey planner** (BLM 2.8) to assist students to decide on the types of questions to include in their surveys.
- Students independently develop their condiment: making, testing, tasting, adjusting according to survey results.
- Students complete food order for final production of their condiment.
- Students independently construct journal entry using recount.

**Weeks 8, 9 and 10****Week 8**

- Teacher assists students to:
  - edit their final recipe on the computer
  - independently prepare their condiment using their recipe (procedure) and serve it with an appropriate food
  - create a package and label for their condiment, drawing on information gathered in week 2
  - independently construct a journal entry.

**Week 9**

- Teacher and students evaluate the finished design projects, using negotiated assessment criteria. The finished product will include:
  - the sample condiment
  - the printed recipe (procedure)
  - the package and label
  - the written and verbal explanation of the process
  - the completed journal (recount).

**Week 10**

- The following extension activities could be included if time permits:
  - Design a marketing brochure.
  - Write a letter to a condiment manufacturer to promote the product.
  - Investigate the costing of the condiment.

**BLM 2.1: Recount text annotated to show text organisation**

*Orientation provides  
information about who,  
what, when, where*

This lesson 7X did an analysis of the design brief.

*Sequence of events*

First we identified the key words in the design brief.

Then we looked up the dictionary to define these words.

After this we used these definitions to complete a cloze passage.

Finally we discussed what we needed to do to successfully complete the design brief.

*Conclusion (where  
to next)*

Next we will begin to think about the types of condiments we could make.

**BLM 2.2: Recount scaffold**

*Orientation (tells  
who, what, when,  
where and why)*

*Sequence of  
events*

*Conclusion  
(optional)*

**BLM 2.3: Explanation – Scaffold and cloze activity****Preservation and storage of herbs***Phenomenon  
identification*

Herbs are plants which are used to flavour foods.

..... can be used either fresh or dry. .... herbs  
will keep for only a limited time whereas ..... herbs  
will keep indefinitely.

To dry herbs all moisture has to be removed. This process is  
called dehydration. .... can be done by air  
drying.

*Explanation  
sequence*

..... is done by placing fresh herbs in a single layer  
on racks and covering them with muslin to keep the dust off.

The ..... are then left in a warm airy place, not  
direct sunlight, for about 24 hours.

The ..... process is completed when the herbs  
feel dry but not brittle and are still green.

..... herbs must be stored in an airtight container  
in a cool, dry place to keep the .....

**Word bank**

fresh

racks

dried

flavour

they

this

dehydration

air drying

dried



**BLM 2.4a: Sequencing activity – jumbled text**

(Students rearrange the following pieces of text into the correct sequence.)



Print the database.

Type in your data.

A database is information about a topic. It can be handwritten, printed in a book, or appear on a computer.

Collect the data.

Decide on the data to be collected.

Decide on the field names for your database.

Sort the data by selected fields, in alphabetical or numerical order.

Create the fields of the database file.

Save the database file.

## How to create a database

## How to create a database

A database is information about a topic. It can be handwritten, printed in a book, or appear on a computer.

Decide on the data to be collected.

Decide on the field names for your database.

Create the fields of the database file.

Save the database file.

Collect the data.

Type in your data.

Sort the data by selected fields, in alphabetical or numerical order.

Print the database.

*NB: This represents a preferred sequence. Some steps may be sequenced differently.*

**BLM 2.5: Procedural text annotated to show organisational and language features**

*goal or  
aim*

### **Lime dill butter**

*materials  
(resources)*

#### **Ingredients**

2 egg yolks

1 teaspoon grated lime rind

2 dessertspoons fresh lime juice

125g softened butter

1 tablespoon chopped fresh dill

#### **Equipment**

double saucepan

whisk

paring knife

chopping board

wooden spoon

*steps in  
order*

#### **Method**

1. *Place* egg yolks, lime rind and juice in the top of a double saucepan.
2. *Stir* with a wooden spoon over simmering water for 1 minute.
3. *Cut* softened butter into small pieces.
4. *Whisk* into mixture gradually.
5. *Continue* whisking until sauce thickens.
6. *Remove* from heat immediately.
7. *Stir* in dill and *cool* to room temperature before serving.

*optional*

#### **Serving suggestion**

Delicious when served with barbecued seafood.

*Italic text*

action verbs usually beginning sentences as instructions.

Underlined text

words which qualify the actions by giving information about how, where, when and for how long.

## Why condiments are added to foods

Phenomenon identification

Explanation sequence

**BLM 2.7: Procedure scaffold**

Goal or aim:

Materials (resources):

Ingredients:

Equipment:

Steps in order:

**BLM 2.8: Survey planner**

What are you making?

Who is your target market?

What do you want to know about your product?

- 
- 
- 
- 
- 
- 
- 
- 

How many people will you test?

How will you record responses to your survey?



# Design brief 3

*Design and make an item that could be used when entertaining outdoors.*

## Student outcomes

While a range of design and technology outcomes are being addressed in this unit of work, the outcomes listed focus specifically on literacy.

### Knowledge

Students should be able to:

- identify, through discussion, the positive and negative consequences for society of various technologies
- identify the conventions of graphic communication, debating their purpose and success in various examples
- identify the methods of written and oral communication appropriate to describing and marketing the product
- identify the appropriate communication skills necessary to undertake the project effectively.

### Skills

Students should be able to:

- research and report information related to the product
- search, choose and record electronically relevant information and communicate through the Internet
- prepare a range of materials ready for assembly and describe the assembly process
- discuss the criteria for the success of a quality product
- continually assess safe work practices and spaces through debate and discussion.

## Attitudes

Students should be able to:

- value the ability to describe safe work practices and convince others of their importance
- exhibit confidence in exploring and representing ideas through discussion
- demonstrate confidence in using technologies in designing, recording, reporting and making
- recognise the value of the information and sharing capacities of the Internet.

## Structure of the unit

The following unit of work is designed to cover ten weeks. Literacy strategies are included in each activity. Many of these elements are expanded. This provides assistance in teaching the literacy elements in the prescribed context. The literacy strategies highlighted in this unit will assist students to create and interpret **procedural** and **report** text types.

This design brief is comparatively open, providing students with the opportunity to explore a diverse range of interpretations and possible solutions. Solutions that students might suggest include trays, tongs, scrapers, cutlery racks, serviette holders, bowls, folding stools, portable BBQs, aprons, serviettes, tablecloths, picnic bags, oven mitts and picnic rugs.



## Week 1

### Analysis of the design brief

- Introduce the design situation and brief.
- Students identify **key words** and do a **vocabulary prediction**, using dictionaries to check their predictions.

#### Key words

These are significant words that identify important components and convey what needs to be done with them. In the following sentence the key components are in bold. Student actions are in italics.

*Design and make an **item** that could be used when **entertaining outdoors**.*

### Vocabulary prediction

The juxtaposition of words and our knowledge of the topic often help us to predict word meanings. Good writing provides clues. In fact, we often do not need to read every word to get the meaning, because we use context clues to predict meaning.

One way of learning about predicting word meanings from contexts is to highlight new or interesting words in a passage.

One of the most important items for outdoor entertaining is *seating*. This can be comfortable, like a lounge chair, so that people are relaxed. It can be functional, so that people have somewhere to rest while talking. It might be a long hard bench to hold a few people who are not looking for comfort. It might be portable, so that people can move the furniture easily to another place.

Ask the students to look at the words around the chosen word and then try to predict its meaning. Then have the students check their prediction by looking up the word in the dictionary or by asking peers or their teacher. Remember that an educated guess is a prediction.

The following table might be of assistance when using vocabulary prediction.

Word	Context prediction	Dictionary, peers, or teacher's ideas	Other clues
seating	location, position and posture of people, activity of people, material for seats, chairs	bench, director's chair, manner of sitting	other words in passage relate to furniture

This process of following clues and building information enables students who cannot make a prediction in context to seek assistance in other areas e.g. teacher, peers, dictionary, electronic sources etc.

## Week 1 (continued)

- Negotiate and record the criteria for success according to the needs and limitations of the design brief.
- Introduce **flow charts** as a way to plan design activities and focus on a design process. Deconstruct a flow chart of a familiar process.
- In groups students explore how they will go about their project and jointly construct a flow chart of the steps in this design project.

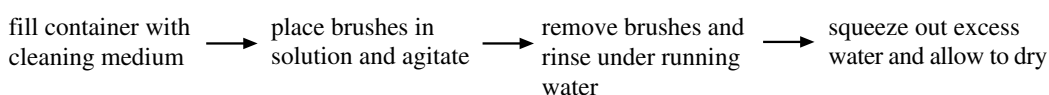
### Flow charts

Flow charts are one way of presenting the steps undertaken in any activity or project. They may describe the whole of a project or separate parts or activities of a larger project. They are a useful way of managing projects or planning how to go about a task.

Flow charts are commonly used in construction, technology and engineering projects, and their use in all types of project management is now widespread.

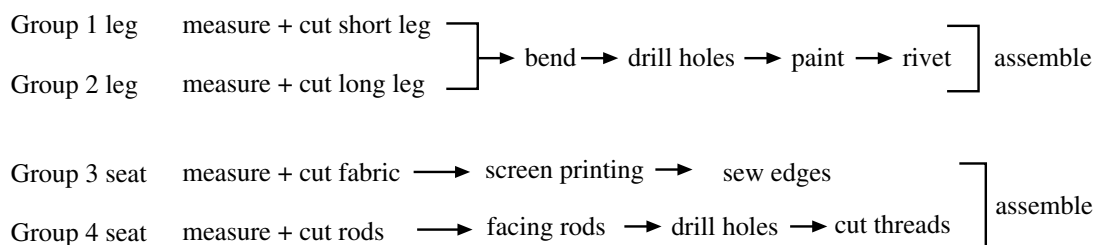
The simplest form of flow chart shows a single flow:

#### Cleaning brushes



Often a process or project will require different activities to occur at the same time:

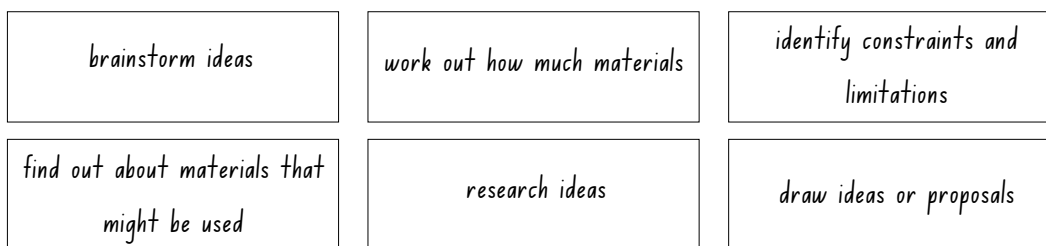
### Constructing a folding stool



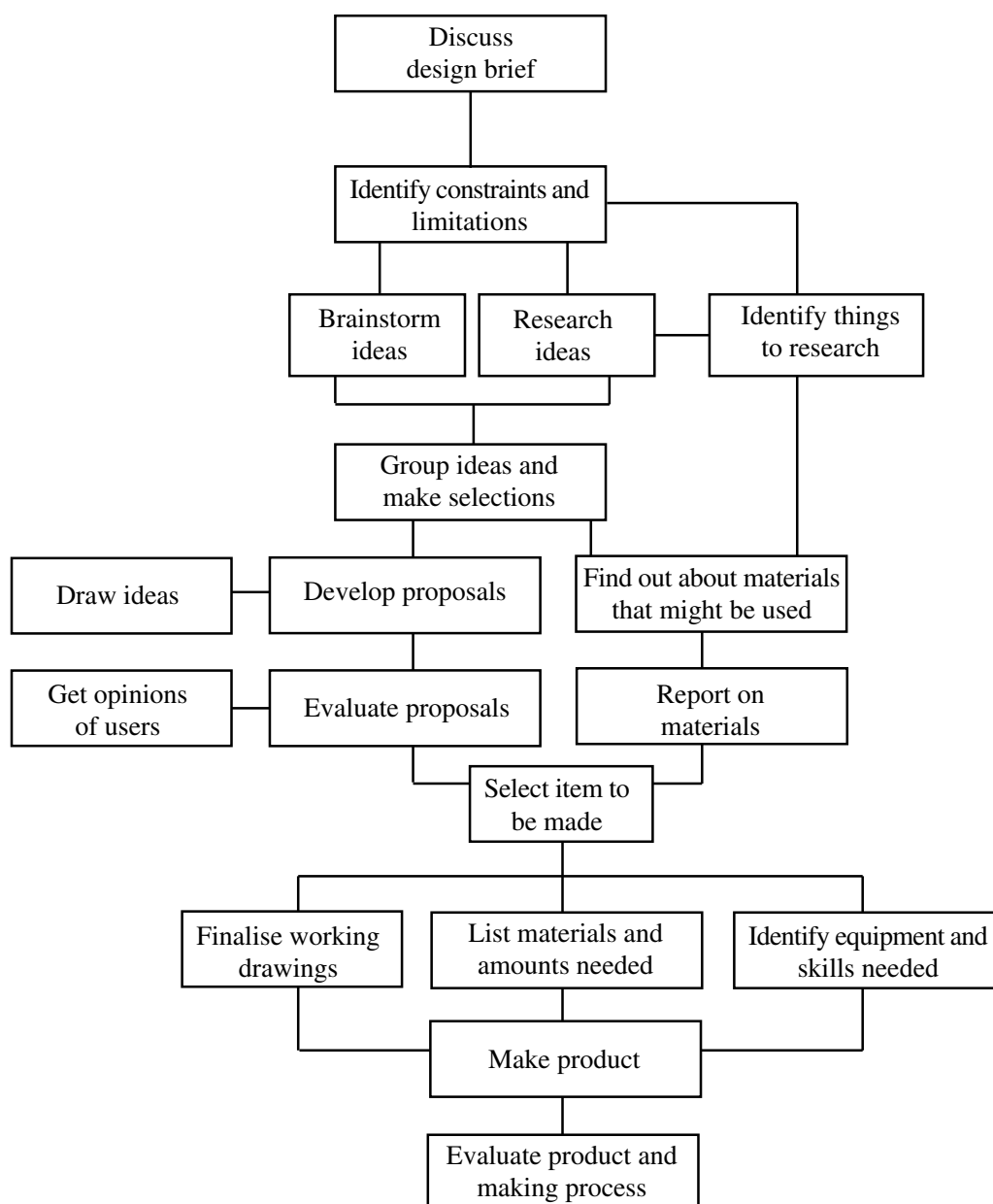
Examine a flow chart of a familiar process to identify how steps are described and positioned.

In introducing the design task, have students brainstorm the steps needed to complete the task. This may be done in groups, with ideas then compared and consolidated into a whole-class set.

Record each step on a separate piece of paper or sticky note. Students then consider the order of the steps. Using sticky notes allows students to position a step and alter or rearrange steps as they refine their ideas.



Compile steps on a white board or butcher's paper and record the final flow chart.



Flow charts can be quickly created by using a variety of computer software applications. Dedicated flow chart software is commonly included in project management packages.

Flow charts are also used to illustrate the nature of structures or organisations. In this case they demonstrate the “flow” of such things as lines of responsibility or communication.

## Week 2

- Engage students in a **brainstorm** of items they could make for outdoor entertaining.

### Brainstorm

This is used to activate a learner's background knowledge by creating a large and diverse collection of words and information. One way to carry out a brainstorm is for students to contribute their thoughts on a given topic. These are written on the board without comment or change.

By generating a free flow of words you can trigger new ideas. This stimulates the students to make links from their own knowledge. Brainstorming may be completed in small groups or as a whole-class activity. The following steps may be used as a guide.

- Clearly state the topic.
- Choose a recorder.
- Ask each student to record four or five ideas privately before sharing.
- Set the rules: no criticism, all answers are valued.
- Encourage a free flow of ideas, especially valuing the unusual.
- Leave explanations until later.

Students could suggest groupings to classify the information gained.

- Model or demonstrate on the board how to **list, group and label** items.

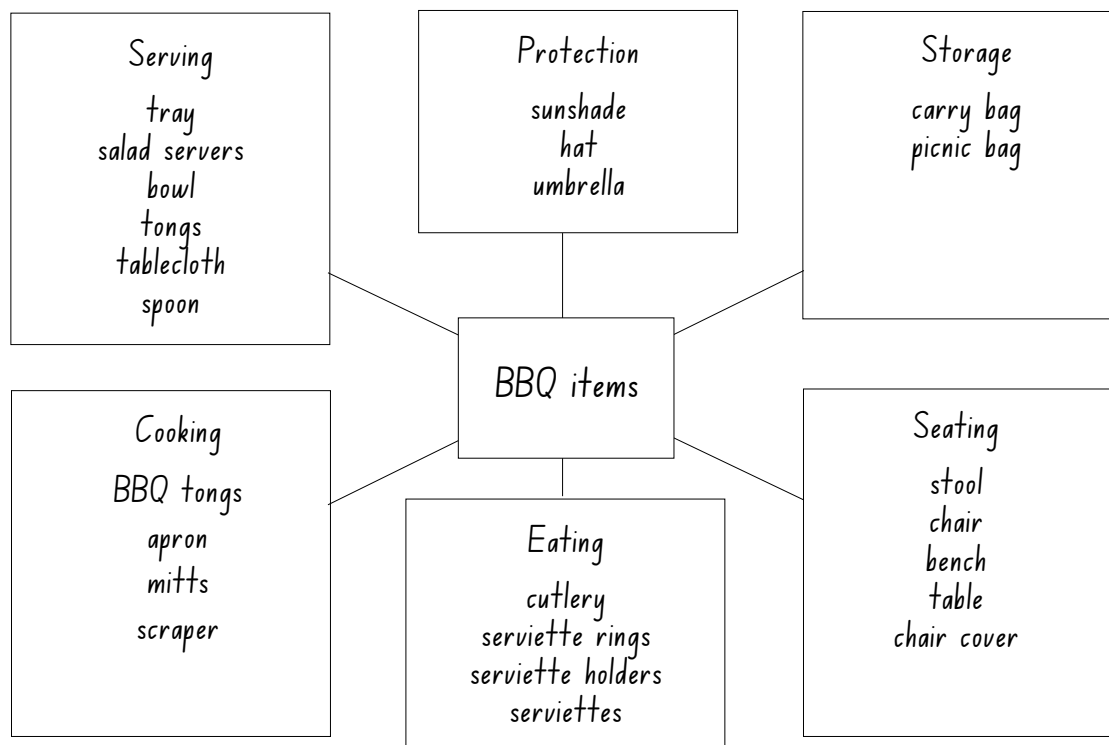
### List, group, label activity

The following procedure is an example of this activity.

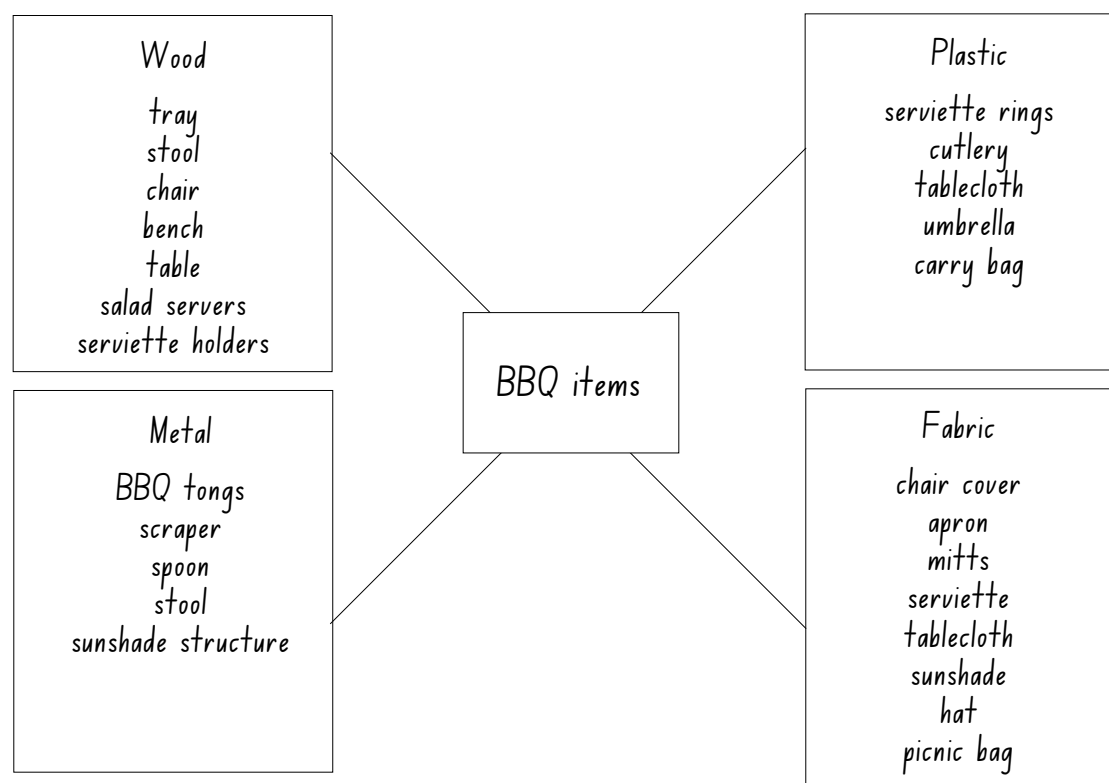
- Students individually list items they could make to fulfil the brief.
- In small groups, they compare their lists and write each item on a separate piece of paper.
- These are grouped into "like" items, e.g. *chair, stool, bench* could be put into one group because they are all used as seating.
- Students label each group according to their classification.
- They then walk around the room to look at other groups' classifications. They observe the differences between groups. A representative of each group explains why the categories were chosen.
- Students' work is then displayed around the room. A whole-class discussion looks at the question of which classifications are useful and in which ways. In this discussion the teacher raises the issue of criteria for "useful", e.g. clearest communication, identifying materials etc. Discussion should highlight different ways of grouping objects, e.g. by use or purpose or production material.

The following work samples are examples of **list, group, label** activities undertaken by Year 7 students.

### List, group, label: Student work sample



### List, group, label: Student work sample



**Week 2 (continued)**

- Teachers assist students to:
  - list, group and label the suggested items
  - select a range of possible ideas for their product
  - make rough sketches of each idea and label features
  - evaluate each idea by doing a **PMI**.

**PMI**

PMI is a strategy which encourages students to investigate and examine all sides of an issue.

Students list:

- P (plus): the good things about an idea
- M (minus): the bad things about an idea
- I (interesting): the interesting things about an idea.

- decide on the item to be produced (product).

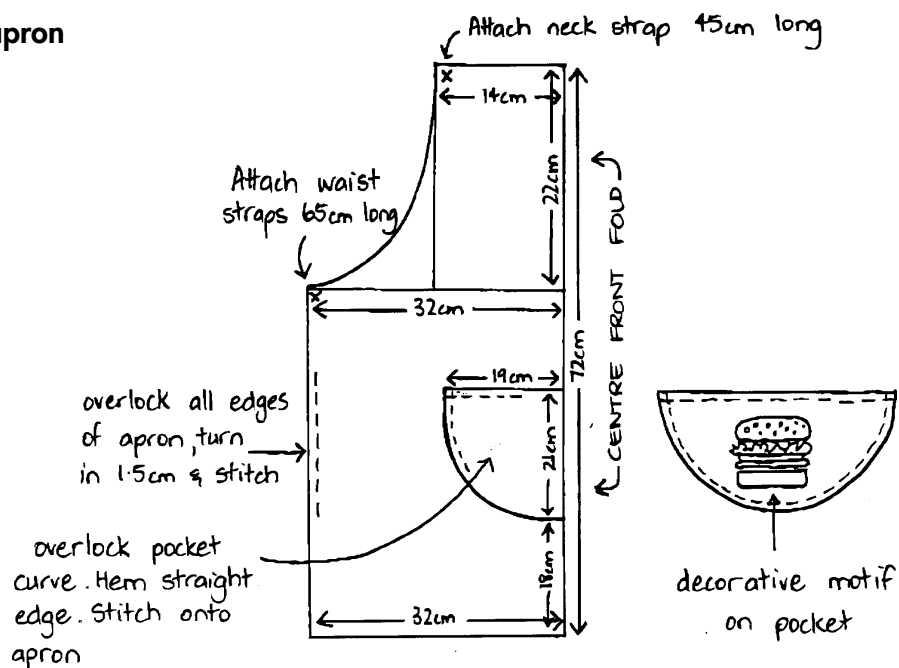
## Weeks 3 and 4

- Model and demonstrate **drawing techniques** including computer aided drafting.
- Students independently generate detailed drawings of their item (product).

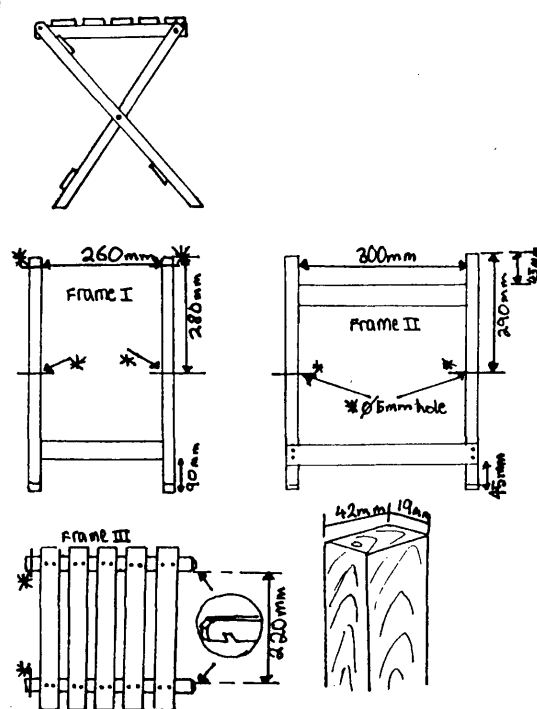
### Sketching and drawing techniques

As students will be making different projects you will need to have a range of drawings and sketches of possible or similar items to use as models. This allows students to see what is expected and the types of drawing and labelling conventions that are used, depending on the product they are designing and making. The following drawings are student work samples.

#### An apron



#### A piece of furniture



**Weeks 3 and 4 (continued)**

- Conduct a **floorstorming** activity with students to identify the materials they can use.

**Floorstorming**

Floorstorming is a combination of structured overviews and brainstorming. A picture stimulus is placed on the floor and blank paper is placed around the picture. Students take it in turns to add something related to the topic. In this way key words and concepts are identified. These words can be further grouped by use of a structured overview.

A structured overview allows students to group words into logical areas using visual frameworks, while activating their background knowledge and identifying new information. Individuals brainstorm words related to a topic and record them on A3 paper. A scaffold sheet which outlines the main concepts of the topic is given to students. Students organise the words from the floorstorming activity into these concept groupings.



- Students independently research properties of materials they would like to work with. Research may include using the **Internet**.

### Locating information on the Internet

Researching the Internet can be conducted individually or in groups.

Students need to start by defining the research topic. They identify what they already know and what they need to know about their topic and write questions they want answered. These questions become the focus of their search.

The most common way to find information on the Internet is to use a search engine. There are many search engines available, including *NED Search*, which is incorporated into the Department's web site, *Network for Education*. No two search engines work in exactly the same way, but most use key words or phrases as the basis of the search. Usually a search engine will provide information on how it operates.

Once a search engine has been selected, students type in key words or descriptors. If the search engine is able to locate any matches to the search request, a list of relevant sites is displayed. The search engine ranks sites according to the number of occurrences of the key words.

In order to find relevant information quickly, students need to choose their search terms (key words or descriptors) very carefully. For example, when searching for items related to construction materials, the key word *materials* was entered into a search engine. This gave a return of 499 059 possible sites containing the key word. Refining the search to *material properties* returned only 2126 possible sites.

Refinement is still needed, so further searches were conducted using the following terms:

Search term	No. of sites
<i>wood</i>	148 629
<i>wood properties</i>	168
<i>textiles</i>	18 488
<i>textile properties</i>	4
<i>cotton</i>	41 582
<i>cotton properties</i>	0
<i>properties of cotton</i>	16

Notice that for the search descriptors *textiles* and *wood*, adding the word *properties* to the search descriptor greatly reduced the number of returns. However, when the same was done for *cotton* the result was zero matches. The search had to be further refined to the phrase *properties of cotton*. The way that search terms are entered can be as important as the words themselves.

Students should also be encouraged to compare the results of using the same key words in a number of different search engines.

Once students have located relevant information they need to select, organise and present their findings.

For further information on using the Internet refer to *connect.edu: Internet in teaching and learning*, NSW Department of School Education (1997).

**Weeks 3 and 4 (continued)****Focus text: Information report****Purpose of information report**

Reports are essentially descriptions that classify and describe things in general and specific terms. In design and technology, reports are useful to:

- report on investigative work
- describe the properties of materials, tools and resources
- present key information gained from an excursion
- identify and classify related products, systems or environments.

Reports are frequently structured in the following way:

*General statement or classification:*

This section of the text can do several things. It can classify the thing being described, locate it in time and space or preview the description which follows.

*Description:*

This section of the text sets out the information in the report. Typically, it will consist of a number of paragraphs, each of which deals with a different aspect of the description.

Each paragraph usually contains a sentence which previews the information in the rest of the paragraph. This sentence can be called a topic sentence or paragraph preview.

Sometimes there is a sentence which has the function of previewing a section of text, which may include a number of paragraphs. This sentence is known as a section preview.

**Language features of reports**

The language of reports often reflects the technicality of the subject being described, e.g. in design and technology such terms as “design brief” or “evaluation” would be the technical terms used rather than “what you need to do” or “was it successful?”.

Reports are often written in the simple present tense, giving the idea of timeless truth, e.g. “ideas are generated” rather than “I had an idea last week”.

Terms are often generalised. That is, they refer to general things, e.g. “ideas” rather than “the idea I had last week” and are factual and non-evaluative, e.g. “layer of wood” rather than “layer of beautiful wood”.

- Model writing a **report** about a material, making explicit the organisation of the text and particular language features (BLM 3.1 and 3.2).
- The following questions and activities help to deconstruct report texts:
  - What is the report about?
  - Does the introductory statement preview the description that follows?
  - Highlight the topic sentence in each paragraph.
  - How many aspects are described?
  - What technical words are used?
- Provide a report scaffold for students to use to organise their research. Another copy of the scaffold could be used by students to write their report (BLM 3.3).

*NB: The report could be written individually or as a group, where several students have researched the same material.*

## Week 5

- Students independently construct an information report based on their investigations. Provide an additional copy of the scaffold (BLM 3.3)

The following checklist can be used to evaluate the success of the report.

- ☐ Begins with a general introductory statement
- ☐ Has a description
- ☐ Uses generalised terms
- ☐ Uses the simple present tense (timeless)
- ☐ Uses paragraphing to organise stages and describe each aspect or feature
- ☐ Most high frequency words are spelt correctly, e.g. *equipment, material, work space, grain, fibres*
- ☐ Most subject-specific terms are spelt correctly.

- Students finalise their designs for products and present them to class members for discussion.
- Students make a list of the materials and equipment they will be using.
- The teacher familiarises students with the environments (facilities) in which they are going to produce their product.
- Students participate in a **barrier game**.

### Barrier games

Barrier games encourage students to use spoken language to communicate with each other. A physical barrier is placed between a pair of students. Student A is the information giver and Student B is the information seeker. The information may be given in the form of description, instruction, direction or question. Some examples are:

#### Description

“Describe and draw”: Student A describes safety glasses, emphasising the protective features, and Student B draws them.

#### Instruction

“Instruct and arrange”: Student A instructs Student B how to use some piece of equipment in a TAS classroom safely. Student B is then able to demonstrate safe use.

#### Direction

The two students have an identical map of the TAS classroom and its fire prevention features e.g. fire blankets, exits, safety switch, fire extinguisher, and A directs B from an agreed starting point to locate all of the features.

#### Question

Both students have identical pictures except for some minor variations. Students question each other in order to find the differences in the pictures. For example, *Spot the difference* safety diagrams.

- Students list technical terms related to their task and equipment to be used.
- Students work with materials and the teacher demonstrates techniques on a need-to-know basis to allow students to produce their product.

## Week 6

- With teacher guidance, students continue with their project and complete appropriate entries in their design folios.

### Focus text: Procedures

#### Purpose of procedural text type

Procedures give us instructions about how to do or make something. Procedures are important in design and technology and can be used in a variety of situations and activities such as:

- detailing the steps in a design process
- setting out experimental methods
- detailing construction steps for making a product
- detailing the sequenced steps to be carried out in a process.

Procedural texts provide the reader with steps, in logical order, to understand the sequence or process.

They usually contain the following elements:

#### *The goal*

The first stage of a procedural text usually states the aim which is to be achieved. It might name the end product, its purposes or its key functions.

#### *Materials (resources)*

This is an optional stage where resources, including materials or equipment needed to achieve the goal, are listed. This might set out specifications, quantities or costs.

#### *Steps*

The steps are set out in the order in which they are to be performed. Each step needs to be described in sufficient detail for the person doing the assembly to understand clearly how it is done.

#### Language features of procedures

The following language features are often used in procedures:

- technical language
- sentences beginning with a command, e.g. *collect, place*
- words or phrases that specify how, where or when e.g. *place carefully, after five minutes.*

The layout is an important characteristic of many procedures. By placing each step on a new line, the writer points to the order in which the steps are to be performed. These are often numbered so that it becomes unnecessary to use time words, e.g. *next, then, after that.*

- Analyse an example of a procedural text (BLM 3.4), making explicit to students the organisation and language features.

In deconstructing a procedural text you could use the following to enable students to identify text features.

- What is the aim or goal of the procedure?
  - Are resources listed (optional)?
  - How many steps are in the procedure?
  - What technical words are used? Do they assist or hinder understanding?
  - What is the action verb used in each step?
  - What tense is used and why?
- Jointly construct a set of instructions that could be used by another person, based on the students' making experiences. Students create a **procedural text** for this activity. This could be presented as a flow chart if desired.

The following checklist can be used to evaluate the success of a procedural text.

- ☐ States the purpose or goal of the procedure
- ☐ Uses technical words
- ☐ Suggests resources (materials or equipment) in order of use
- ☐ Steps are in chronological order
- ☐ Uses the simple present tense
- ☐ Uses action verbs
- ☐ Uses words that tell how, when, and where
- ☐ Most high frequency words are spelt correctly, e.g. *material, equipment*
- ☐ Most subject-specific terms are spelt correctly

**Weeks 7, 8 and 9**

- Teachers assist students to:
  - continue with their project and complete appropriate entries in their design folios
  - investigate a range of products and materials, similar to the item they are producing, in order to make comparisons
  - use the computer work station and appropriate software in rotation to complete aspects of their design folios.

## Week 10

### Focus text: Response

#### Purpose of response text type

Responses in design and technology are used to respond to, describe or evaluate a piece of work, design ideas or existing products. They may be presented in written, visual or oral form.

Responses can be structured in the following way:

##### *Context*

This section indicates how the product relates to the design brief.

##### *Description*

This section describes in detail key features or aspects of the product.

##### *Judgement*

This section provides a personal response to the product and may include: judgements about whether the product meets the established criteria for the design brief, a comparison with similar products, and opinions of potential users.

#### Language features of responses

The following language features are often used in responses.

- In the context and description stages responses are characterised by verbs that relate to actions.
- The judgement stage may use words that express feelings, qualify opinions or express comparisons.

- Analyse **response text** (BLM 3.5), making explicit to students the organisation and language features.
- Evaluate their project against the criteria which are jointly negotiated with the students. Students use **response scaffold** (BLM 3.6) to complete their evaluation.

The following checklist can be used to evaluate the success of a response.

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | First paragraph sets context of the product within the design brief.            |
| <input type="checkbox"/> | Second paragraph describes the product.   |
| <input type="checkbox"/> | Judgement of the success of product in meeting the design criteria is included. |
| <input type="checkbox"/> | Uses words which qualify opinions and express comparisons.                      |
| <input type="checkbox"/> | Includes action verbs.  |

- Create a class display of products and folios (including computer-generated work, instruction sheets, information reports and evaluative comments).



### BLM 3.1: Report text annotated to show text organisation

## Timber

*General  
statement or  
classification*

Timber is made up of a number of tube-like cells, something like a bundle of drinking straws, but these cells are invisible to the naked eye.

*Description:  
Aspect 1*

These cells, commonly referred to as “fibres”, form the grain. Their arrangement, size and spacing determine the texture. Just as woven fabrics may be coarse-textured or fine-textured, so timber may have a fine or coarse, even or uneven, texture.

*Aspect 2*

Each piece of timber represents a certain pattern of cell formation, in which the fibres lie in a certain direction. This raises two important points:

1. Working across the fibres tends to break them apart.
2. Working against the direction in which they lie causes the fibres to lift and tear.

## BLM 3.2: Example of report text showing language features

## Timber

**Timber** *is made up* of a number of tube-like **cells**, something like a bundle of drinking straws, but these cells are invisible to the naked eye.

These cells, commonly referred to as “**fibres**”, *form* the **grain**. Their arrangement, size and spacing *determine* the **texture**. Just as woven fabric *may be* **coarse-textured** or **fine-textured**, so timber *may have* a fine ofrcoarse, even or uneven, texture.

Each piece of timber *represents* a certain pattern of **cell formation** in which the fibres *lie* in a certain direction. This *raises* two important points:

1. Working across the fibres tends to break them apart.
2. Working against the direction in which they lie causes the fibres to lift and tear.

<b>Bold text</b>	technical language
<i>Italic text</i>	verbs in simple present tense
<u>Underline text</u>	generalised nouns

**BLM 3.3: Plan or scaffold to be used for organising notes or writing a report**

General statement or classification

Description

- 

- 

-

### BLM 3.4: Example of a procedural text showing organisational and language features

## To make a serviette holder

### *Materials and equipment*

You will need:

<b>acrylic</b>	<b>file</b>
<b>abrasive papers</b>	<b>flat file</b>
<b>polish</b>	<b>scroll saw</b>
<b>buffer</b>	<b>plastics heat bender</b>

### *Steps*

1. *Measure* piece of acrylic according to **detailed drawing**.
2. *Cut* acrylic to size, using scroll saw.
3. *File* edges using a file.
4. *Scrape* edges, using a **flat file**.
5. *Use* abrasive papers to smooth edges (coarse piece, medium piece, fine piece).
6. *Gloss* edges with polish solution before **buffing** edges.
7. *Remove* backing paper from piece cut to size.
8. *Place* piece of acrylic on the **plastics heat bender**, 10 cm from edge.
9. When heated, *bend* approximately 80 degrees.
10. *Hold* in place while it cools.
11. *Heat* acrylic 28cm from opposite end and bend again, approximately 80 degrees.

**Bold text**

some examples of technical language

*Italic text*

instructions usually begin with an action verb

Underline text

words or phrases that specify how, where or when

### BLM 3.5: Response text annotated to show text organisation and language features

#### Student response evaluating a product

### Evaluation of finished product

#### *Context*

The product which I **made** was a serviette holder. It **fits** the brief because it **can be used** for storing serviettes.

#### *Description*

It meets the criteria I **established**. The serviette holder **works** and **holds** serviettes without them falling out. It is easy to clean and does not break easily. My serviette holder is made from green acrylic and blends with an outdoor environment.

#### *Judgement*

During the unit of work I **did keep** to my estimated time plan, *mainly because* my time plan **allowed** for changes. *Some* stages of building, *especially* bending the walls, took a lot longer than I **had planned**. I **had to cut** out new pieces, because the first ones did not fit the walls.

#### **Bold text**

action verbs.

#### *Italic text*

words which express feelings, qualify opinions and express comparisons.

## Evaluation of finished product

Context

Description

Judgement



## Chapter 5: Planning a whole-school approach to literacy

This chapter should be read in conjunction with *Planning a Whole-School Approach to Literacy* (Department of School Education, 1997), which has been written to help schools to plan for literacy improvement by:

- interpreting and using Year 7 ELLA results as a basis for future planning
- evaluating the effectiveness of current literacy strategies
- assessing staff expertise in relation to literacy
- identifying, assessing and using available resources
- refining or modifying organisational or administrative structures, and
- refining or developing whole-school literacy plans.

Such a whole-school approach to literacy will have the following results:

- Schools will use the Year 7 ELLA results and other student literacy data as a catalyst for improving students' literacy achievements.
- Schools will use the Year 7 ELLA results as a basis for planning and programming.
- School activities will become more focused on improving the literacy outcomes of students.
- Teachers will have further knowledge about the literacy demands of key learning areas.
- Teachers will have more knowledge about how to teach subject content through appropriate literacy strategies.

NSW Department of School Education (1997). *Planning a Whole-School Approach to Literacy*. Curriculum Directorate.

This chapter will outline briefly the key steps which schools should undertake as they work towards developing a whole-school approach to literacy.

## 1. Establish literacy as a school priority

At faculty and whole-school meetings, teachers can discuss and develop understandings about the literacy demands of various KLAs and subjects. The district literacy team can provide advice to faculty groups about ways to identify and describe these literacy demands.

*Focus on Literacy* makes a useful starting point for meetings and professional development activities related to literacy. It does this by addressing the key elements of the State Literacy Strategy and by providing information about the effective teaching of literacy in an explicit and systematic manner.

Chapters 1 and 2 of this book describe in detail the literacy skills, knowledge and understandings that students in Year 7 need to demonstrate in order to be successful. They also describe the kinds of prior knowledge and skills which students bring to the secondary school by looking at the subject and literacy experiences of the senior primary years.

Having established an understanding of the literacy demands of each subject, teachers should then examine their teaching programs to identify opportunities for systematic and explicit literacy instruction.

The literacy support team in the school should assist in highlighting opportunities to develop students' literacy skills in each subject. Support teachers, such as ESL teachers and STLDs, should be involved in providing advice about specific strategies to assist those students who require additional support. Teacher-librarians have a significant role to play in assisting students to use information skills as they work with a range of resources to gain and use information.

The school as a whole needs to recognise the value of a whole-school approach to literacy and ensure that it becomes part of the school management plan. Ways of meeting the professional development needs of individual teachers and faculty groups should be included in the plan. Teachers could be surveyed to establish their current knowledge and expertise. *Planning a Whole-School Approach to Literacy*, Appendix 1, provides an example of a survey (sample on following page).





## 2. Determining priorities within the plan

In order to develop an appropriate literacy plan for the school, information about students' current literacy achievements needs to be analysed. The ELLA results can provide useful information about individuals' and year groups' strengths and weaknesses. An analysis of the areas in which students require additional support will indicate a focus of the plan. Other information can be gathered by analysing School Certificate and Higher School Certificate results. Data gathered by teachers through informal and formal assessment tasks will also highlight areas needing support.

Having collected and analysed all available data, the staff should determine priorities within the school plan. These priorities should also reflect the State Literacy Strategy. For example, the ELLA results and teachers' observations may demonstrate that 70% of students have difficulty with paragraphing in their writing. In a school where this is the case, this could become an area to be addressed by all teachers in the writing tasks they set for students.

## 3. Developing goals or objectives for the school plan

Priorities should then be translated into goals for students and teachers. These goals need to be written in clear language that defines precisely what is to be achieved. Some goals will refer to short-term achievements, while others will be long-term. A short-term goal might be that all teachers have been trained in the *NPDP, Literacy across the KLAs, Years 7 & 8 modules*. A long-term goal might be increased number of students take 3 Unit level courses.

Some of the goals will have implications for teachers' professional development, and this will need to be documented in the plan, including what form the professional development will take, how it will be provided and how it will be funded.

## 4. Resourcing the school plan

Collect information about available human and material resources. This will include the expertise which already exists within the staff and the district. It will also include collecting information about literacy programs which are already in the school.

Appendix B in *Planning a Whole-School Approach to Literacy* offers one way of doing this. Determine which programs are achieving their outcomes and are aligned with the outcomes of the school plan.

Decide whether additional resources will be required to achieve the outcomes of the school plan. If additional human resources are needed, how will these be found? Will it require a more flexible organisation of the school timetable? If additional material resources are required, how can these be budgeted for in the school plan? Ensure that all staff have the opportunity to provide input to the resourcing of the plan.

From: *Planning a Whole-School Approach to Literacy*,  
Appendix B.



## (B) Mapping Existing Programs and Strategies

*Step 1: List all literacy programs and strategies operating in the school.*

*Step 2: For each strategy or program, you may wish to ask some of the following questions or you may wish to include others.*

1. What is the program?  
\_\_\_\_\_
2. When was it developed?  
\_\_\_\_\_
3. Is it still current?  
\_\_\_\_\_
4. For whom was it designed?  
\_\_\_\_\_
5. Is it achieving its stated outcomes?  
\_\_\_\_\_
6. How do you know?  
\_\_\_\_\_
7. How is it implemented?  
\_\_\_\_\_
8. Is it used by all people who should use it?  
\_\_\_\_\_
9. Is it part of whole-school planning?  
\_\_\_\_\_
10. Is it part of financial planning?  
\_\_\_\_\_
11. Is it simple, practical and reliable?  
\_\_\_\_\_
12. Does it fit in with current DSE Policy?  
\_\_\_\_\_
13. Are there adequate resources for the program?  
\_\_\_\_\_
14. Is it supported by training and development?  
\_\_\_\_\_
15. Has it influenced student participation in teaching and learning outcomes?  
\_\_\_\_\_
16. How do you know whether or not it has made a difference to student learning outcomes?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## 5. Informing parents and the community

Parents and community members could be involved in developing the school plan. Participants could be drawn from the Parents and Citizens Association, local community groups or parents who express a particular interest. All parents and caregivers should be kept informed of the development and progress of the plan through meetings and newsletters. It might be necessary to provide information in a range of community languages.

When reporting on students' achievements, each KLA should include information about literacy achievements and should indicate the areas requiring additional support. The nature of the support being supplied by the school should be indicated. To do this teachers will need to include literacy achievements in the criteria which they apply to assessing students' work and have a plan in place to assist those students who are experiencing difficulties.

## 6. Evaluating the plan

Procedures for evaluating the overall success and the outcomes of the plan should be established and written into the plan. For long-term outcomes, indicators might need to be established to ensure that the school is working purposefully towards the achievement of those outcomes.

The development of effective literacy strategies for the explicit teaching of literacy in a Technological and Applied Studies faculty requires planning, developing, implementing and evaluation by a committed staff.

## Developing a literacy plan for the TAS faculty

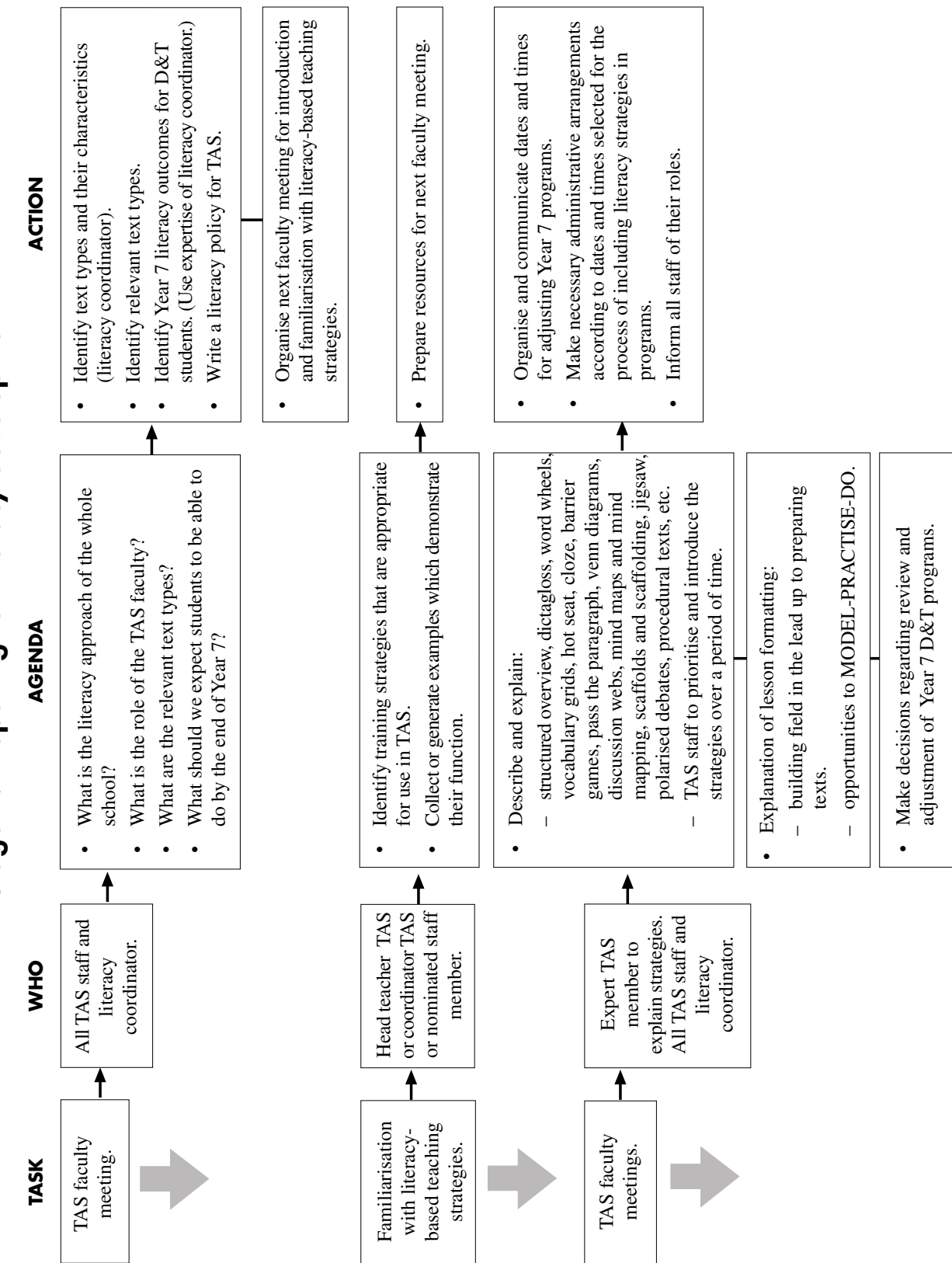
The following approach provides an example of how a successful Technological and Applied Studies literacy plan can be established.

The four-stage approach to literacy development will result in enhanced literacy outcomes for students.

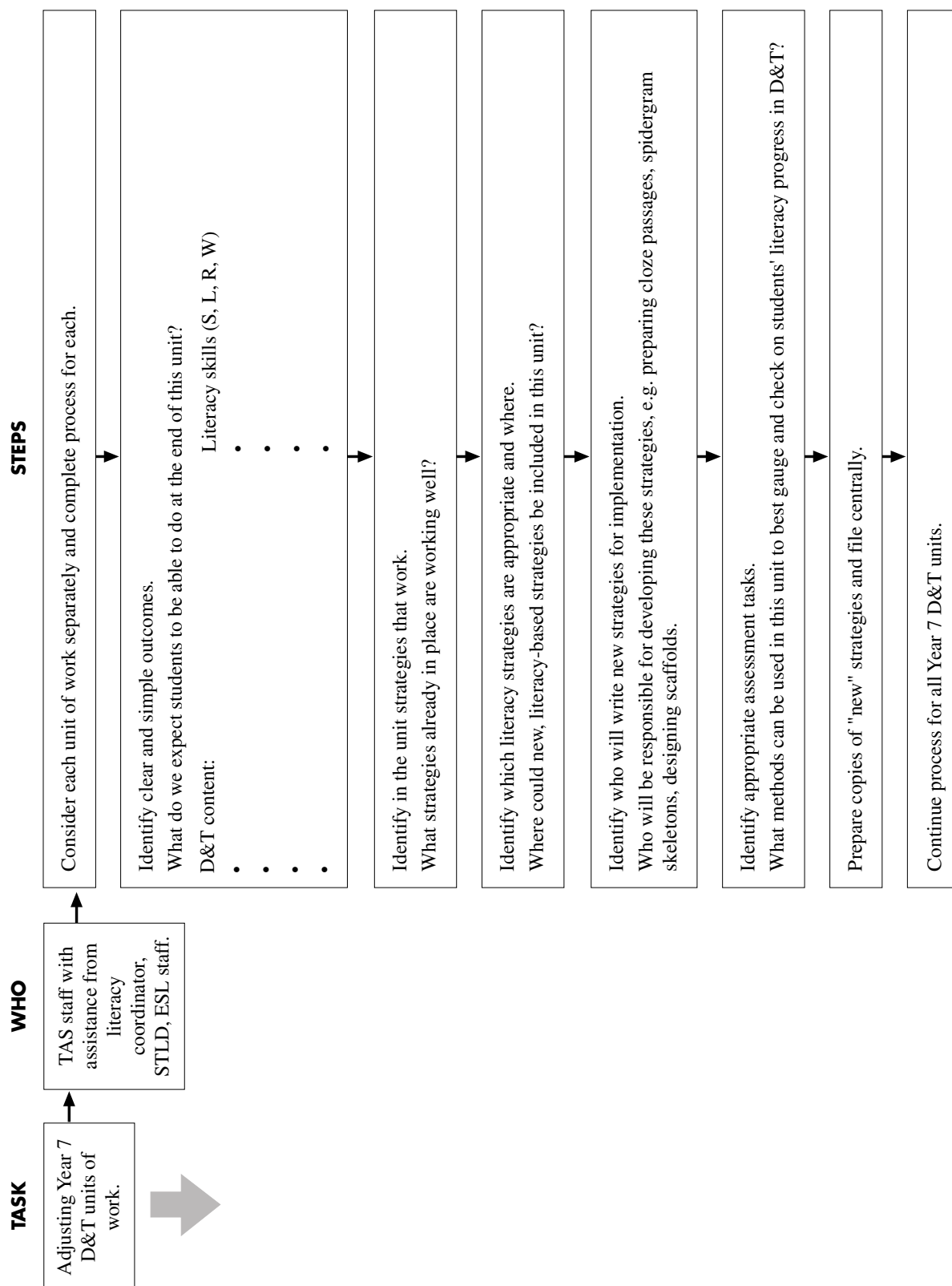
- Stage 1: Preparing for literacy development
- Stage 2: Preparing literacy strategies and learning activities
- Stage 3: Implementing TAS literacy strategies
- Stage 4: Assessing students' progress.

The flowcharts on the following pages provide details of the activities at each stage of the approach.

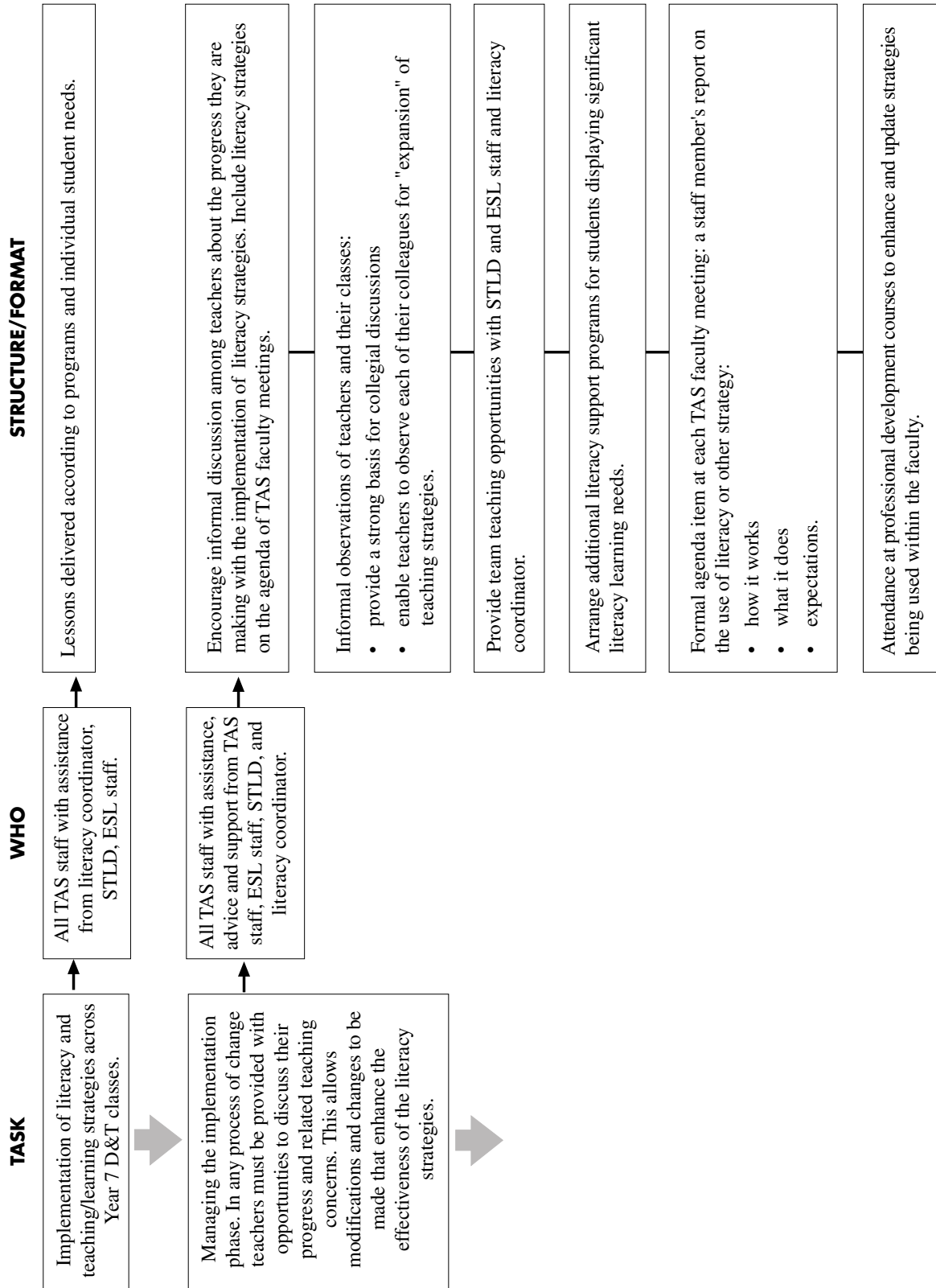
## Stage 1: Preparing for literacy development



## Stage 2: Preparing literacy strategies and learning activities



### Stage 3: Implementing TAS literacy strategies



## Stage 4: Assessing students' progress

